

In The Name Of Allah,

The Most Gracious and The Most Merciful.

Impact of research methodology workshops on ability to solve research issues

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Introduction

Conducting research involves many issues including selection of appropriate study design, application of proper sampling technique and adequate sample size, data collection procedure, data presentation and calculation of confidence interval, concepts of standard error, application of test of significance etc.

Research methodology workshop may play important role in understanding these concepts for fostering research globally.

Objectives

This research was conducted to:
Compare the pre and post workshop knowledge of the participants regarding study design, sampling technique, summarization, presentation and analysis of data for future application in practical research to solve complex research Issues.

Subject & Methods

A total of 300 consultants were selected from various medical colleges in 12 major cities of Pakistan. All the consultants who gave consent for the research methodology workshops were registered and then 25 of them from each medical college were randomly selected for the training of research methods, epidemiology and biostatistics. All the participants were given a pretest before starting the workshop and then again after all the sessions, but before the certificate distribution. A total of 270 participants filled both pre and post test

Variables (Questionnaire)

Data summarization & presentation

Normal curve

Cross- sectional studies

Range & Measures of dispersion

Application of standard deviation

Screening tests

Comparison of case control & Cohort study design

Case report

Confidence Interval

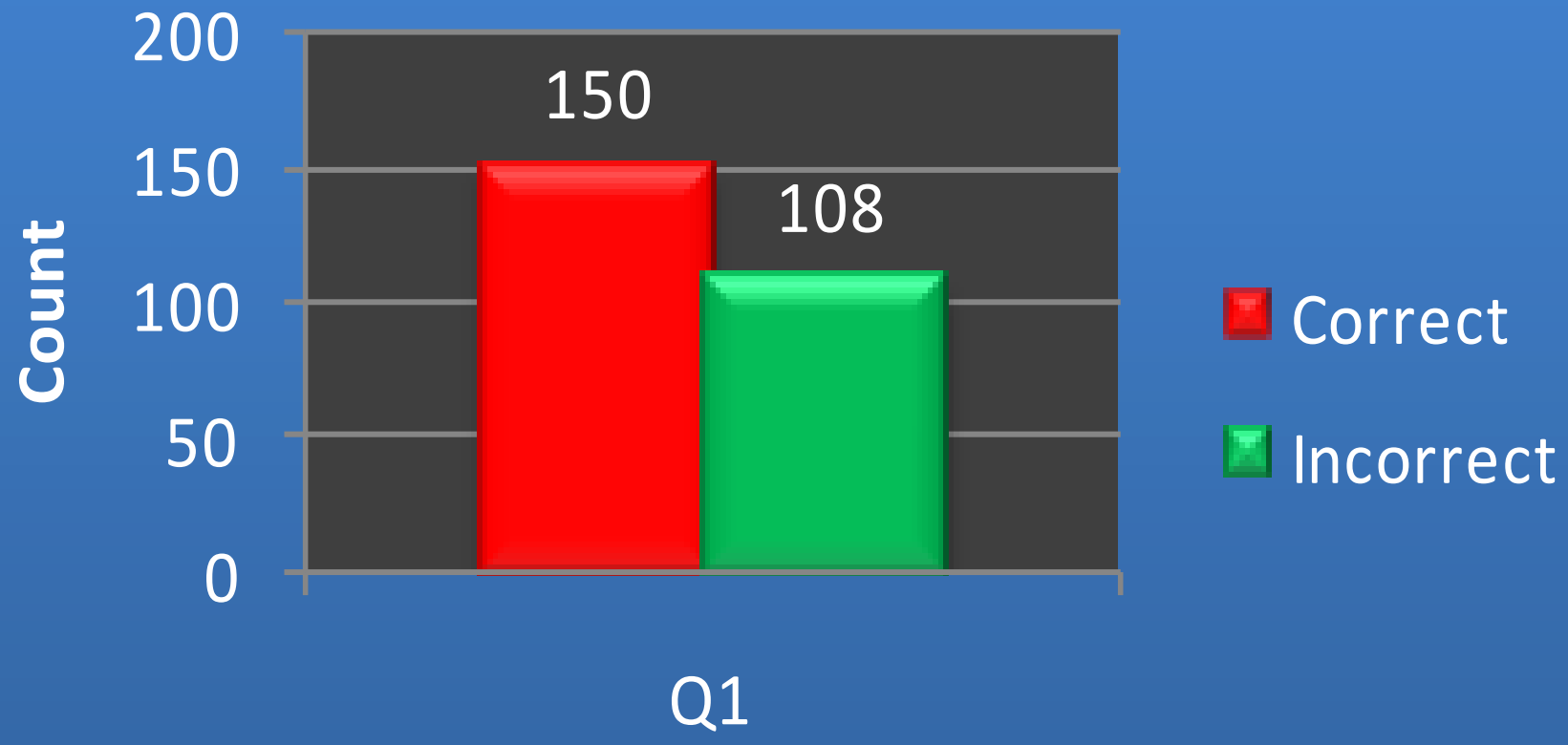
Comparison between Nominal, ordinal & ratio scales

Relative risk & Odd ratio

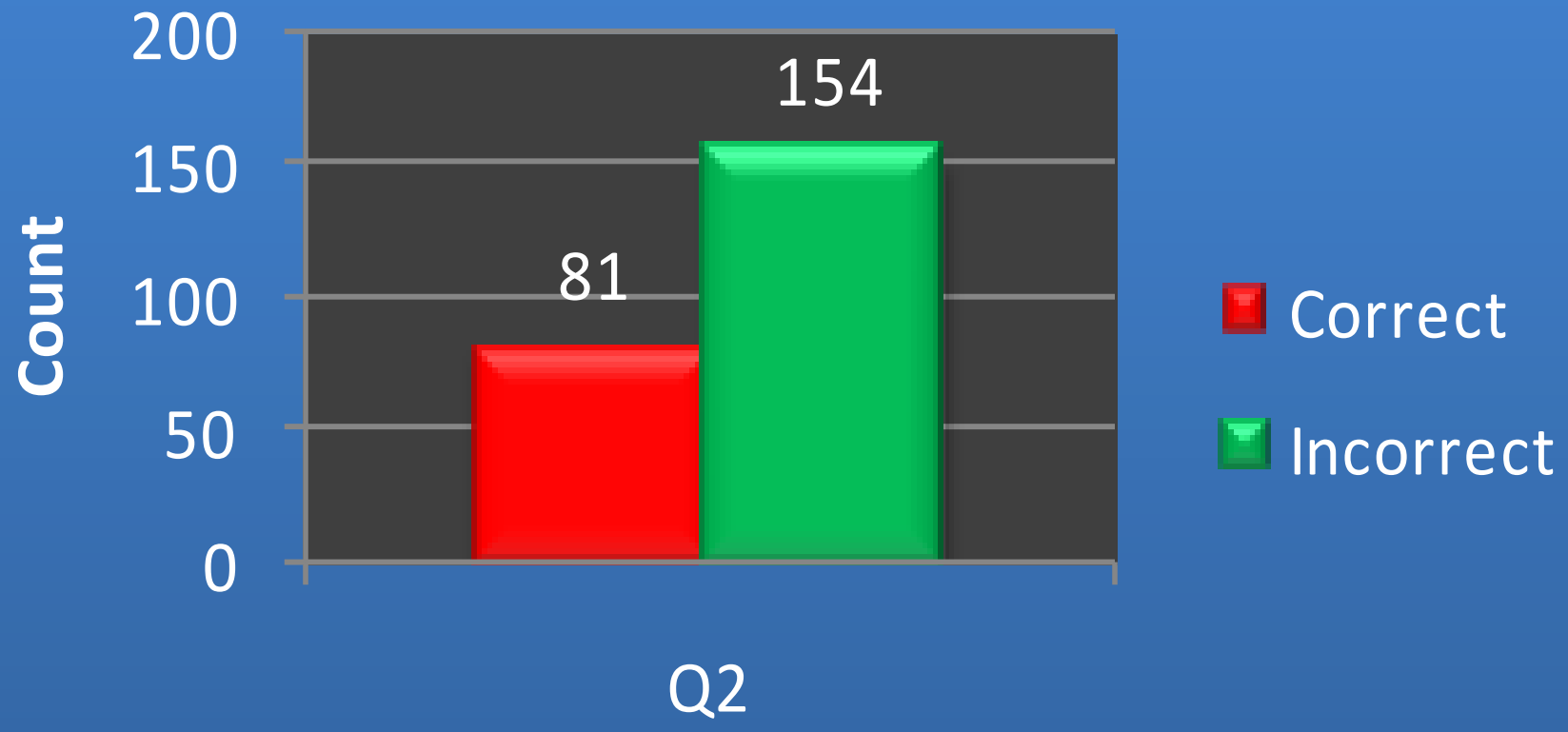
Standard Error

Result

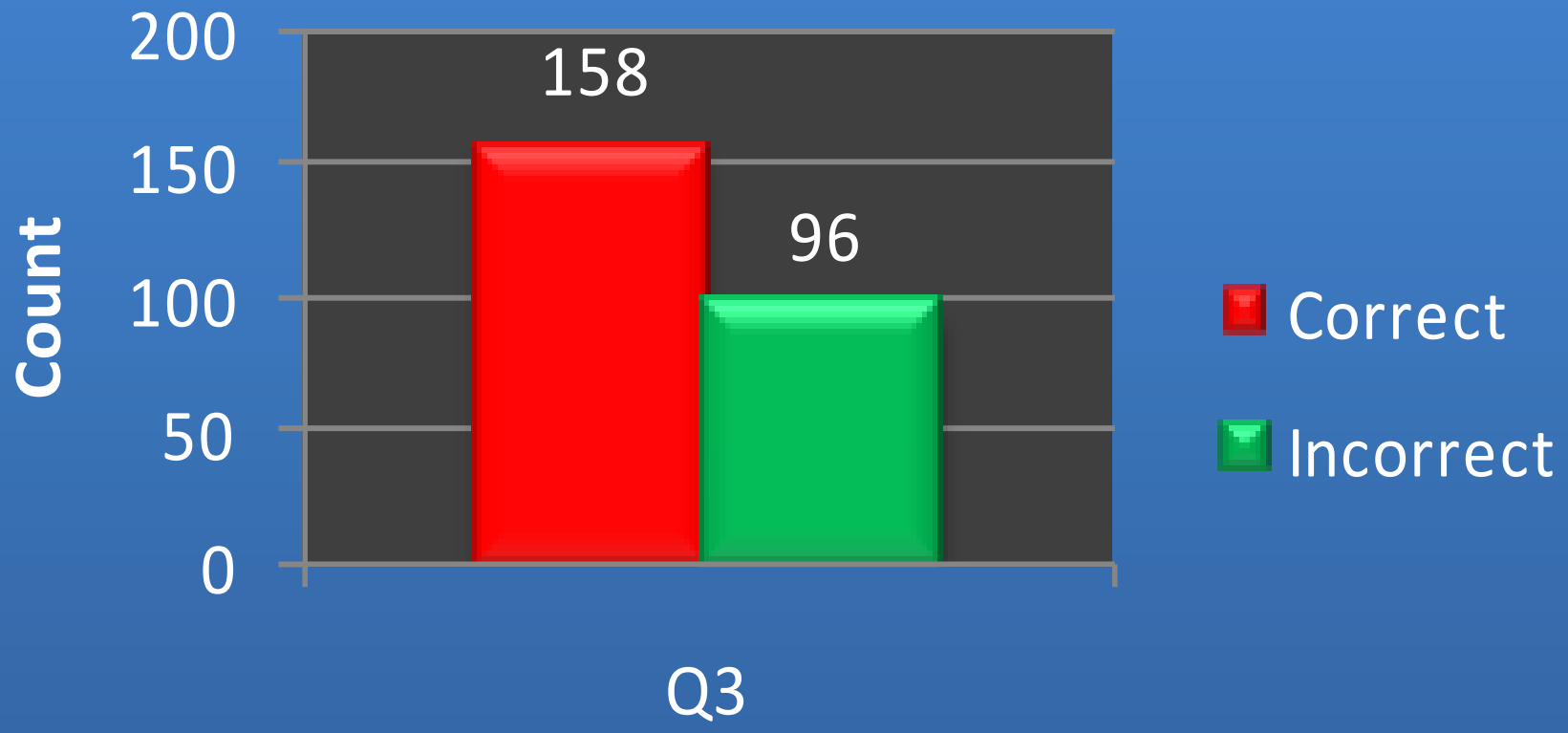
Knowledge About Normal Curve



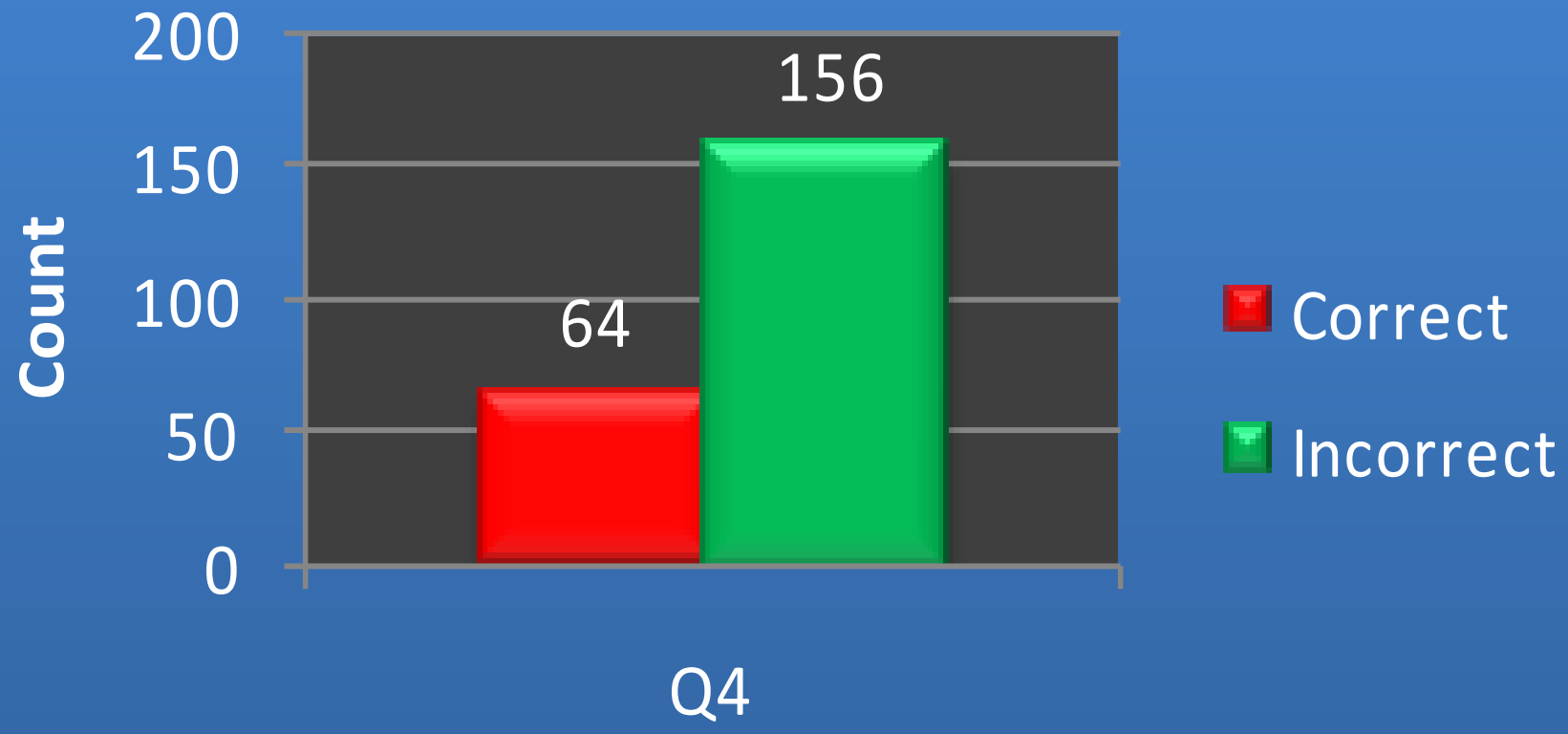
Knowledge About Cross Sectional Studies



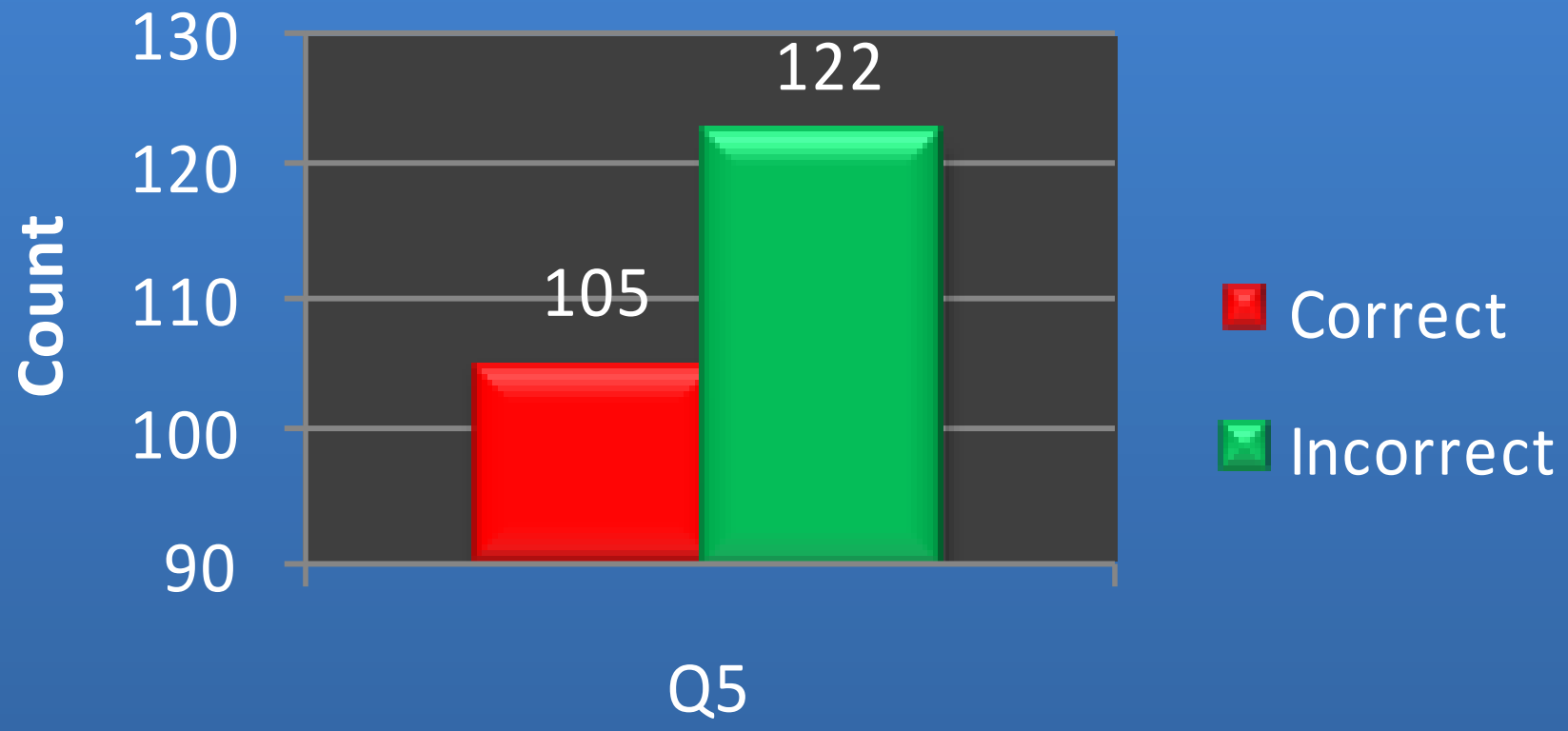
Knowledge About Presentation of Data



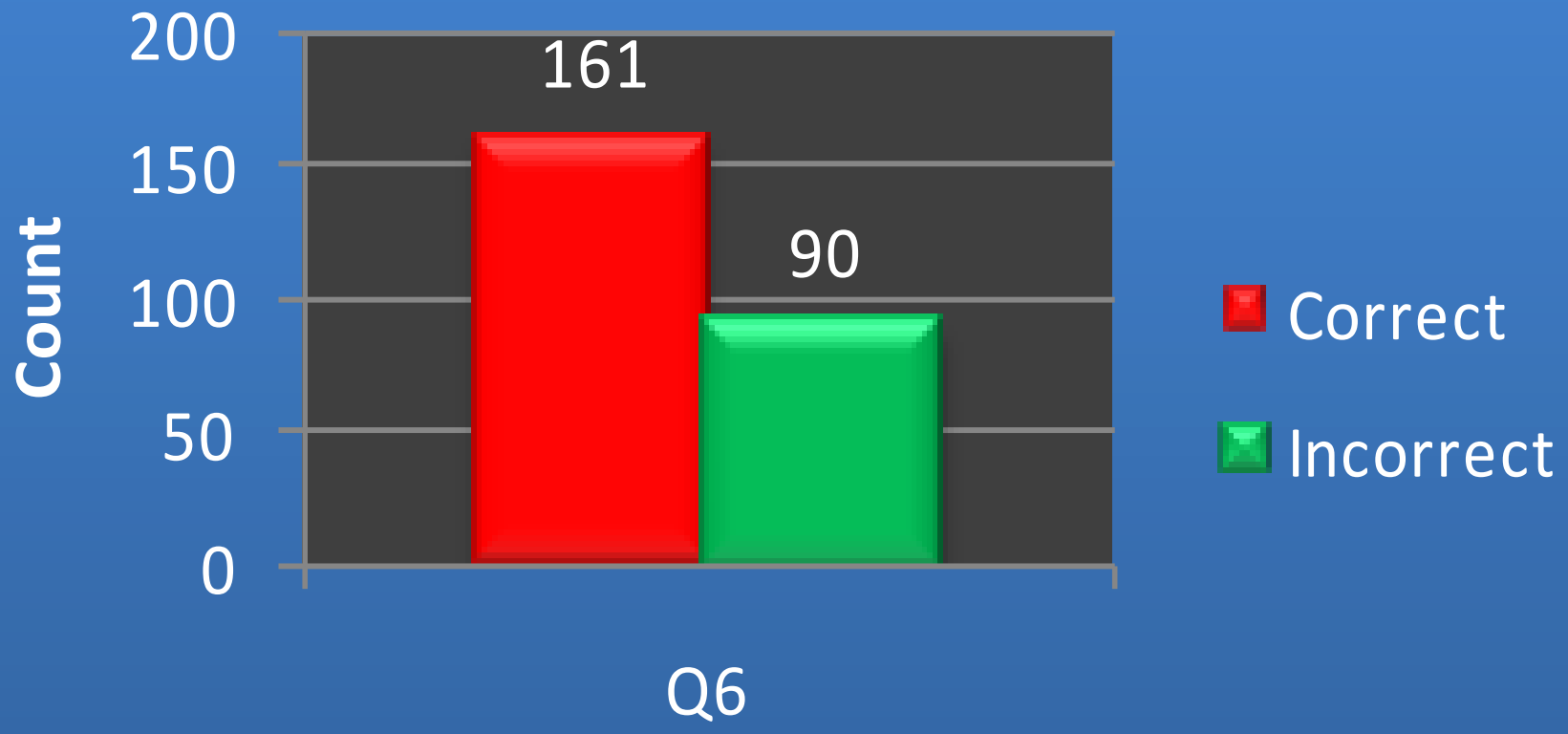
Knowledge About Application of Range



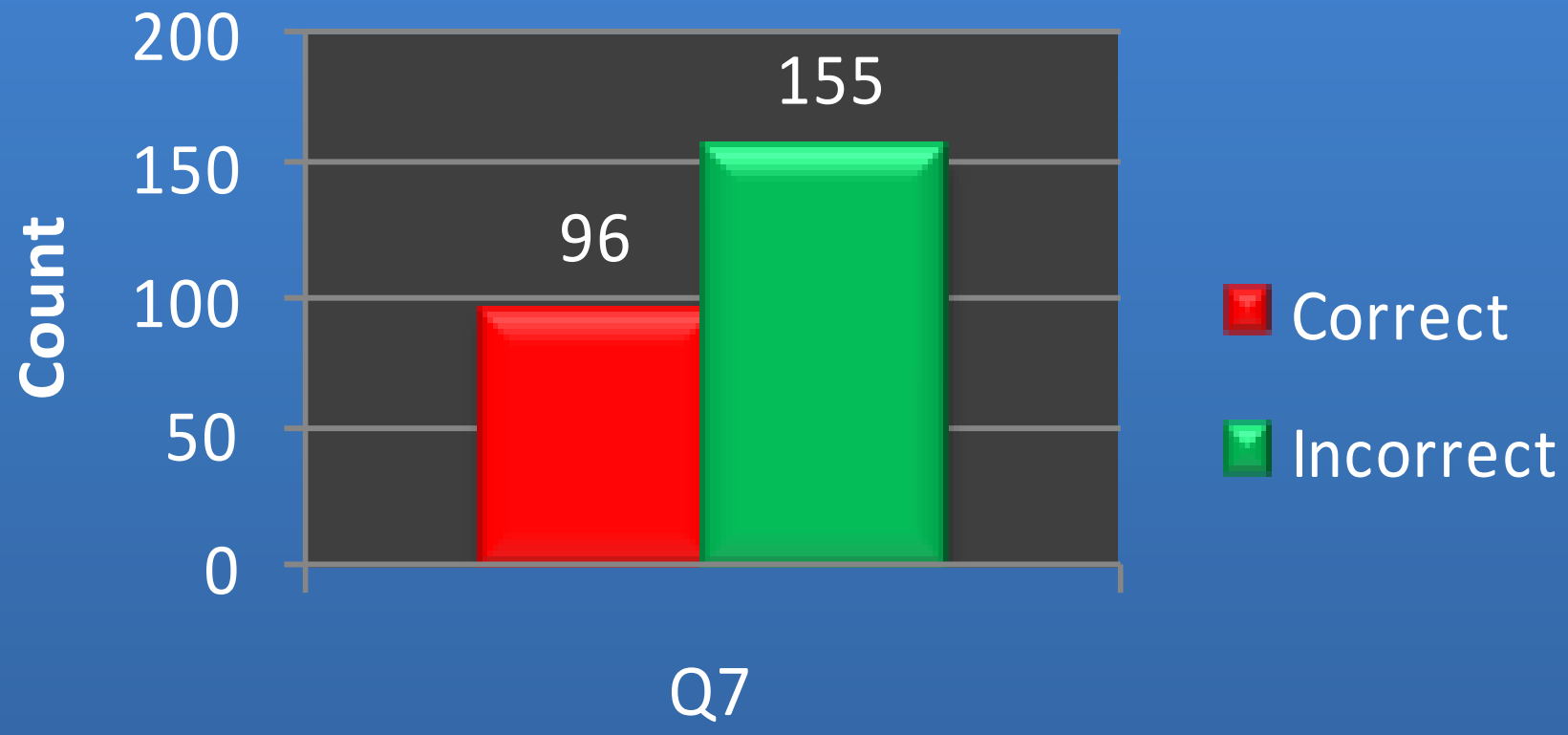
Knowledge About Measures of Dispersion



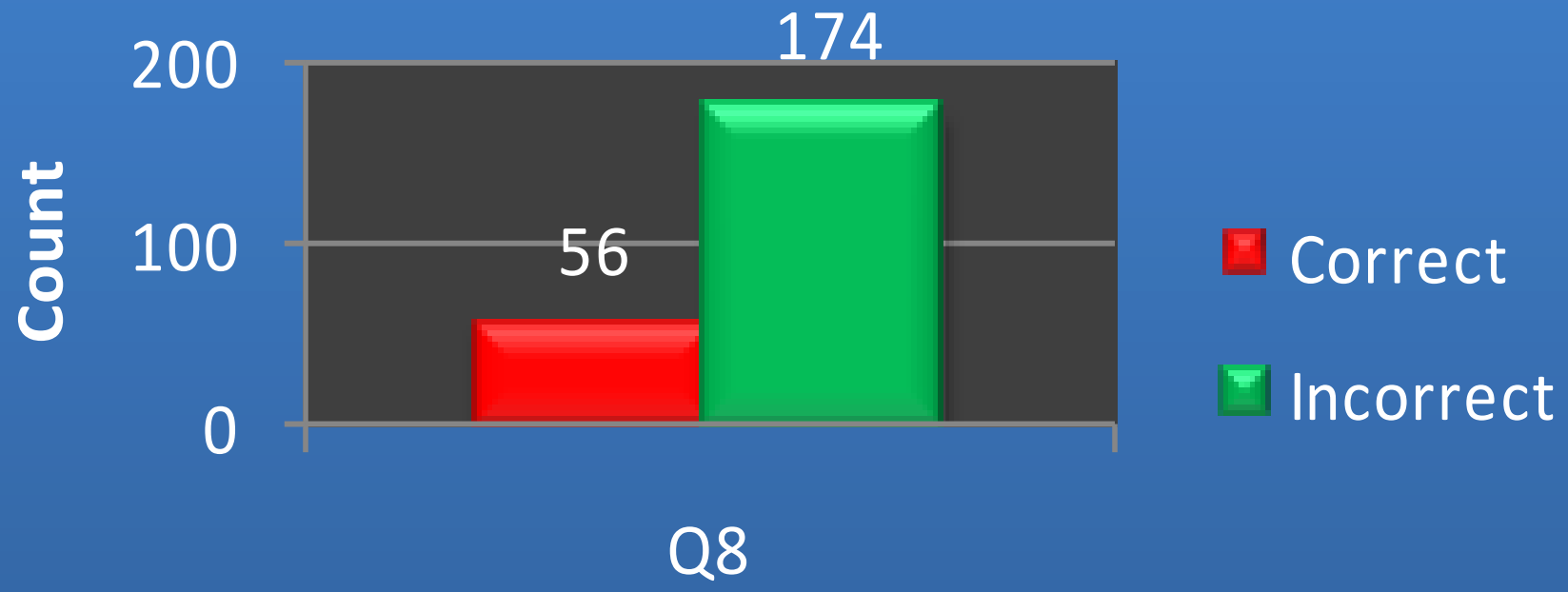
Knowledge About Epi Info



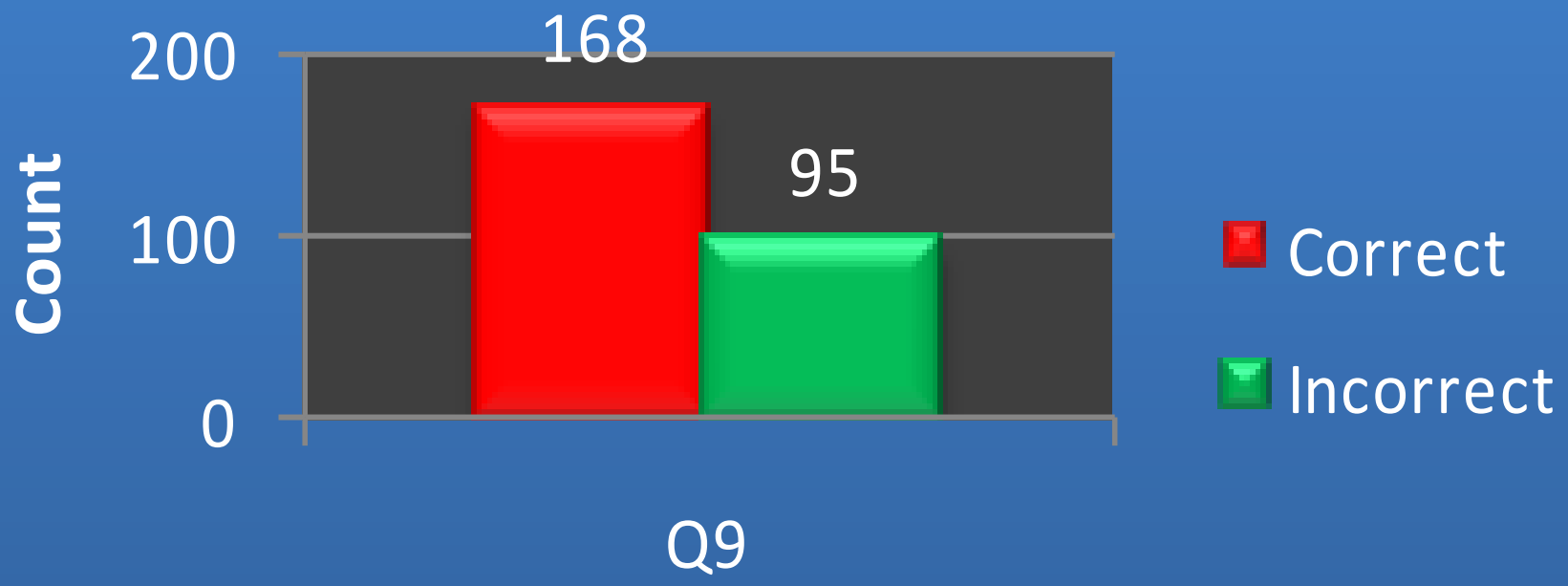
Knowledge About Screening Tests



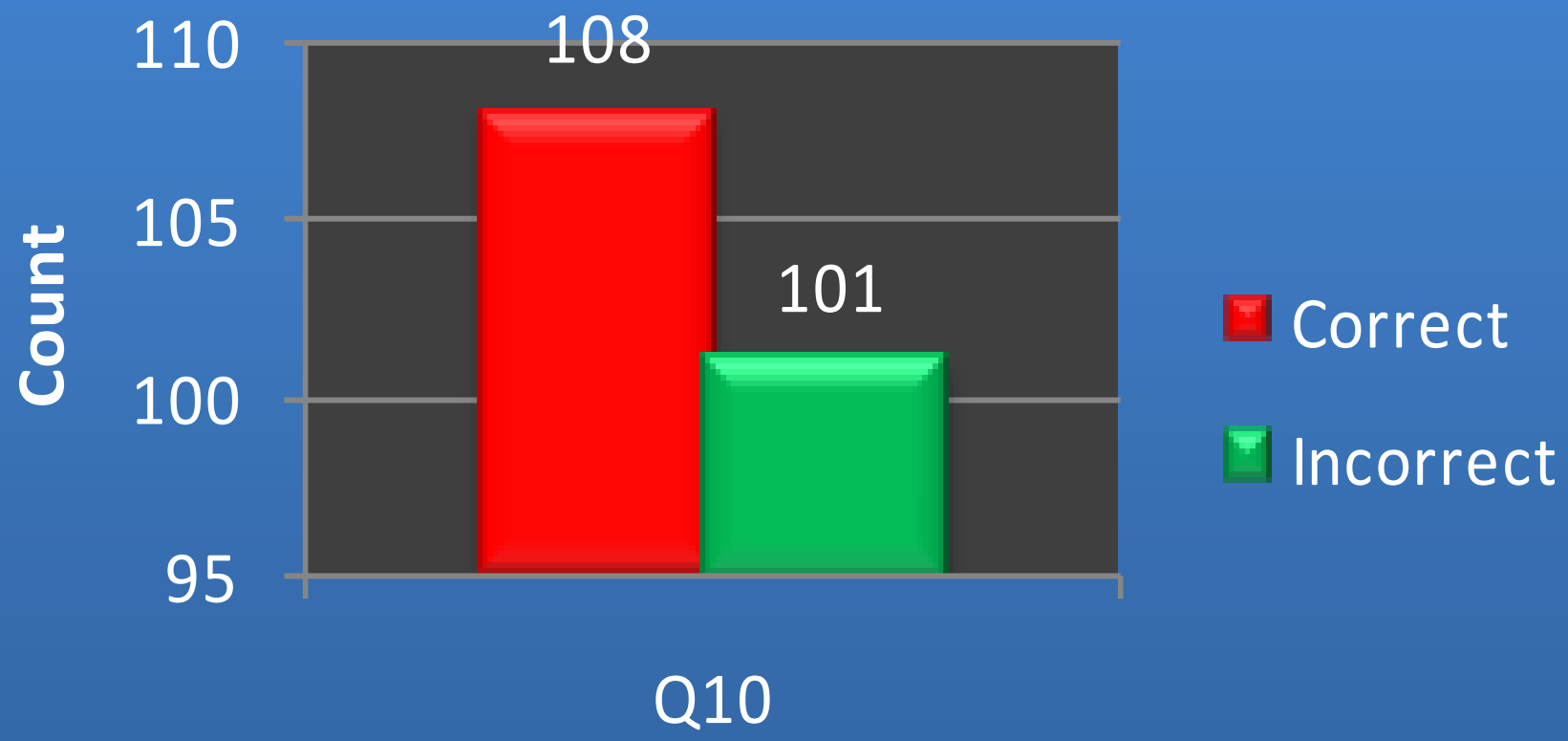
Knowledge About Cohort/Case Control Studies



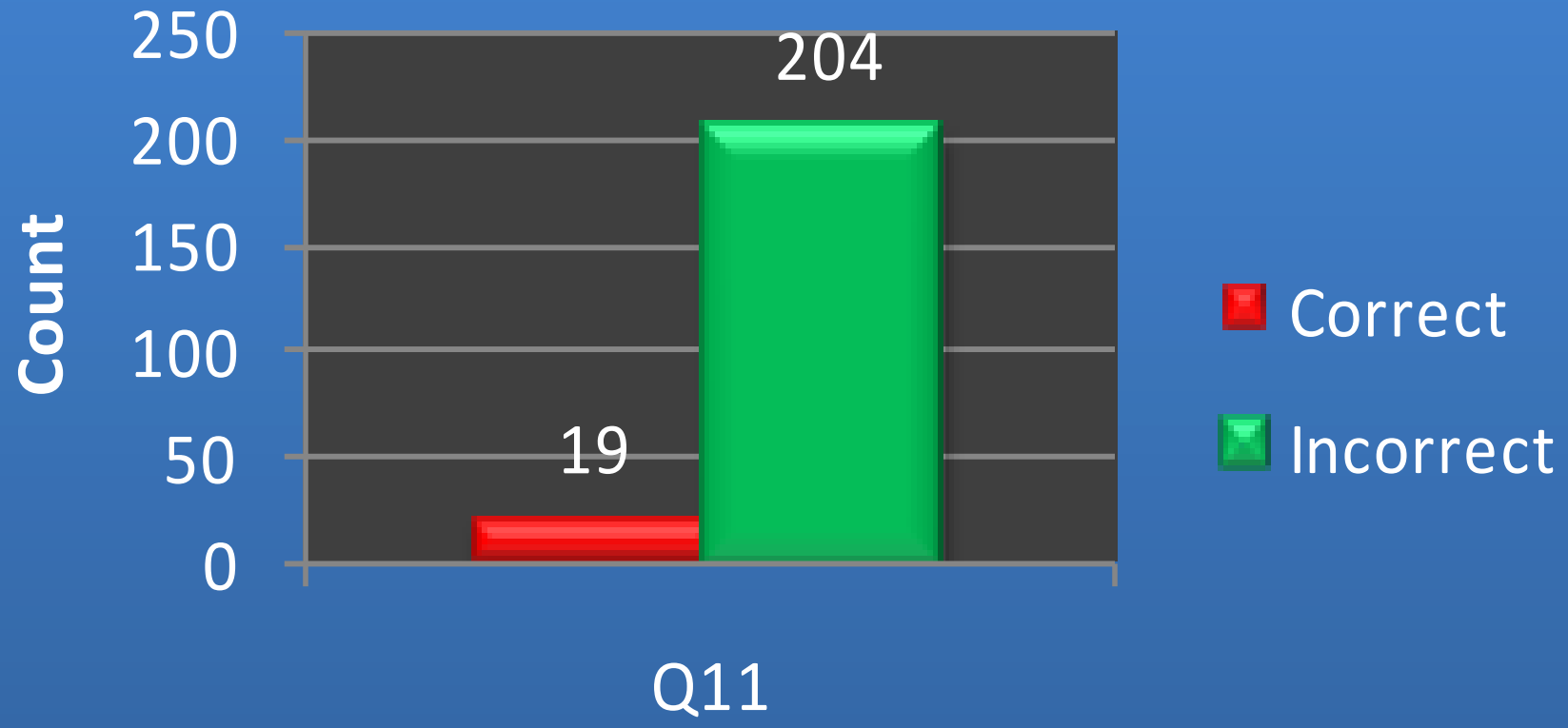
Ability to Select Appropriate Study Design



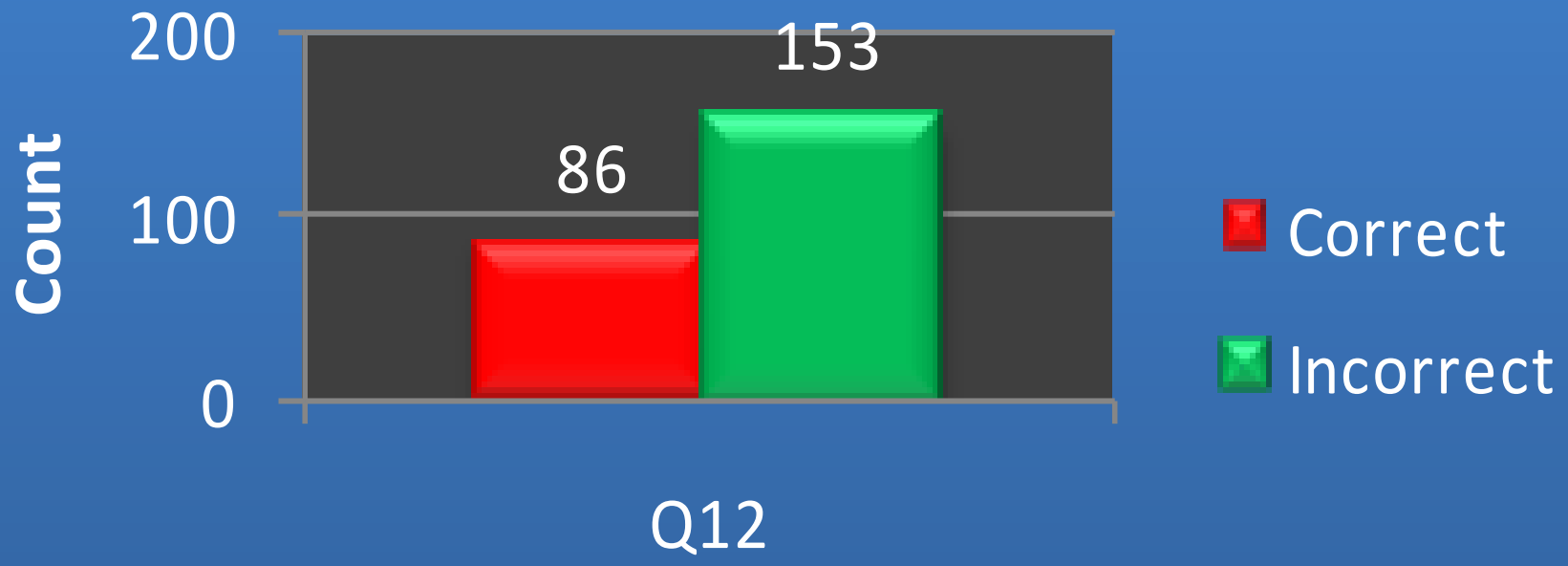
Concepts of Confidence Limit



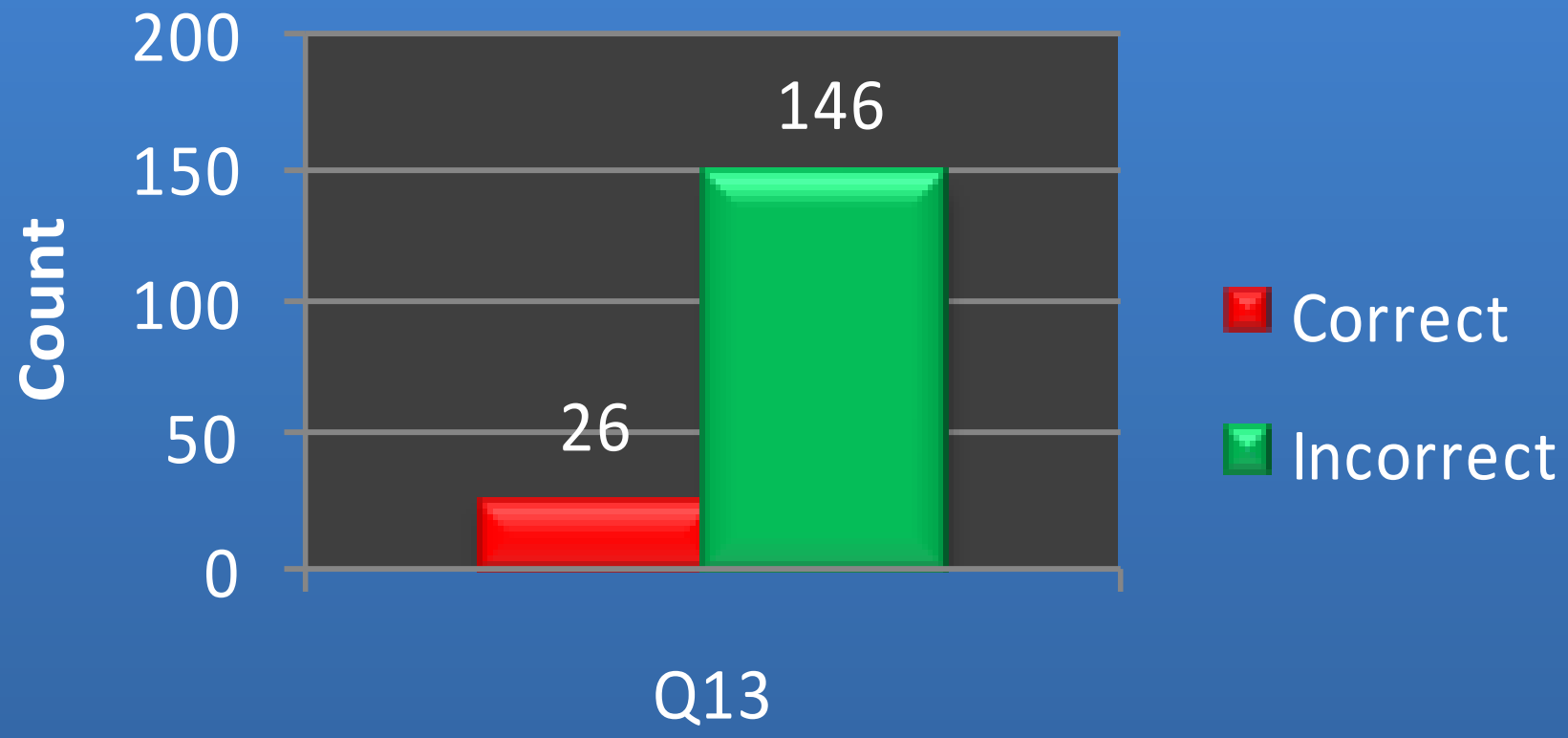
Ability to Differentiate Between Types of Data



Ability to Apply Appropriate Measures of CT



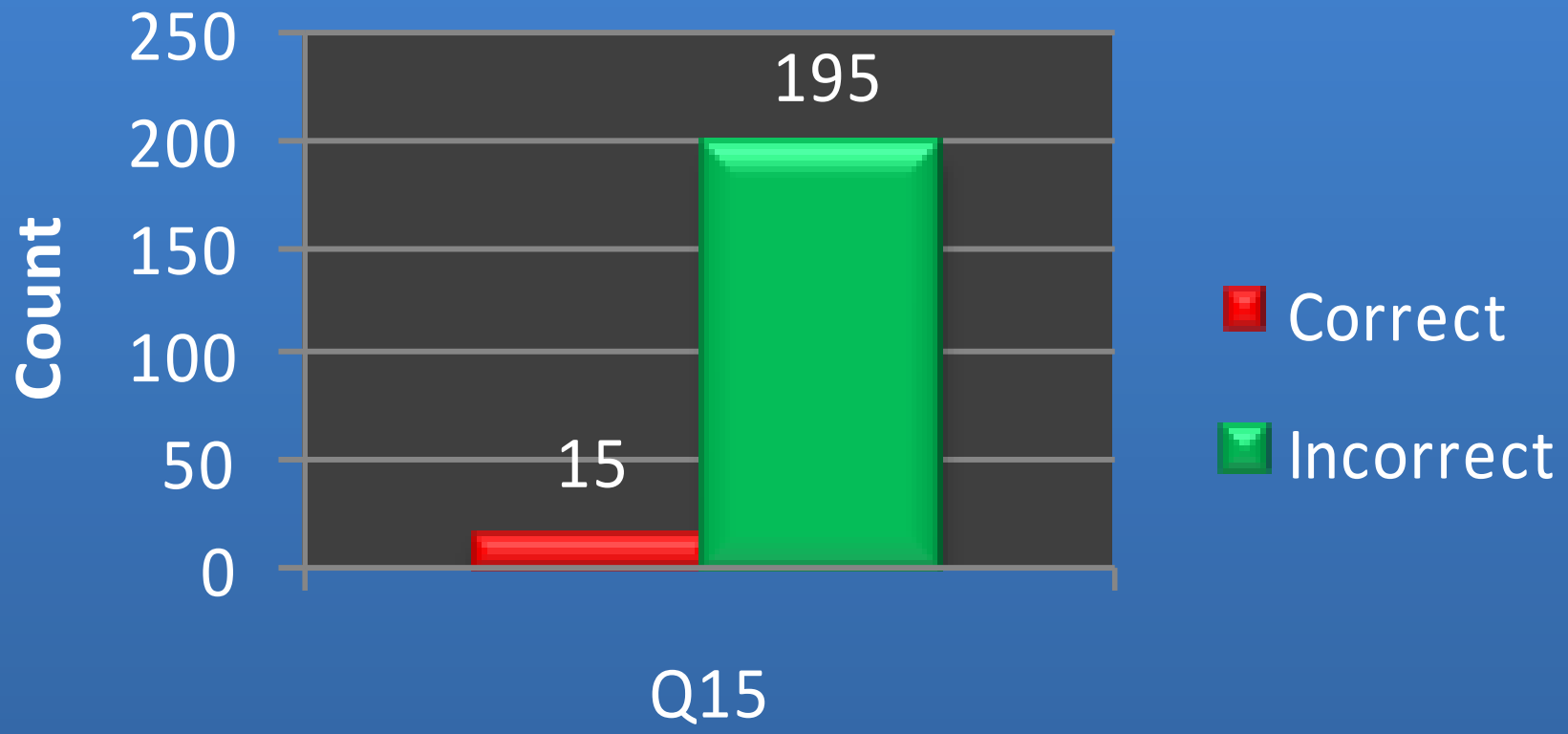
Ability to Calculate Relative Risk (RR)



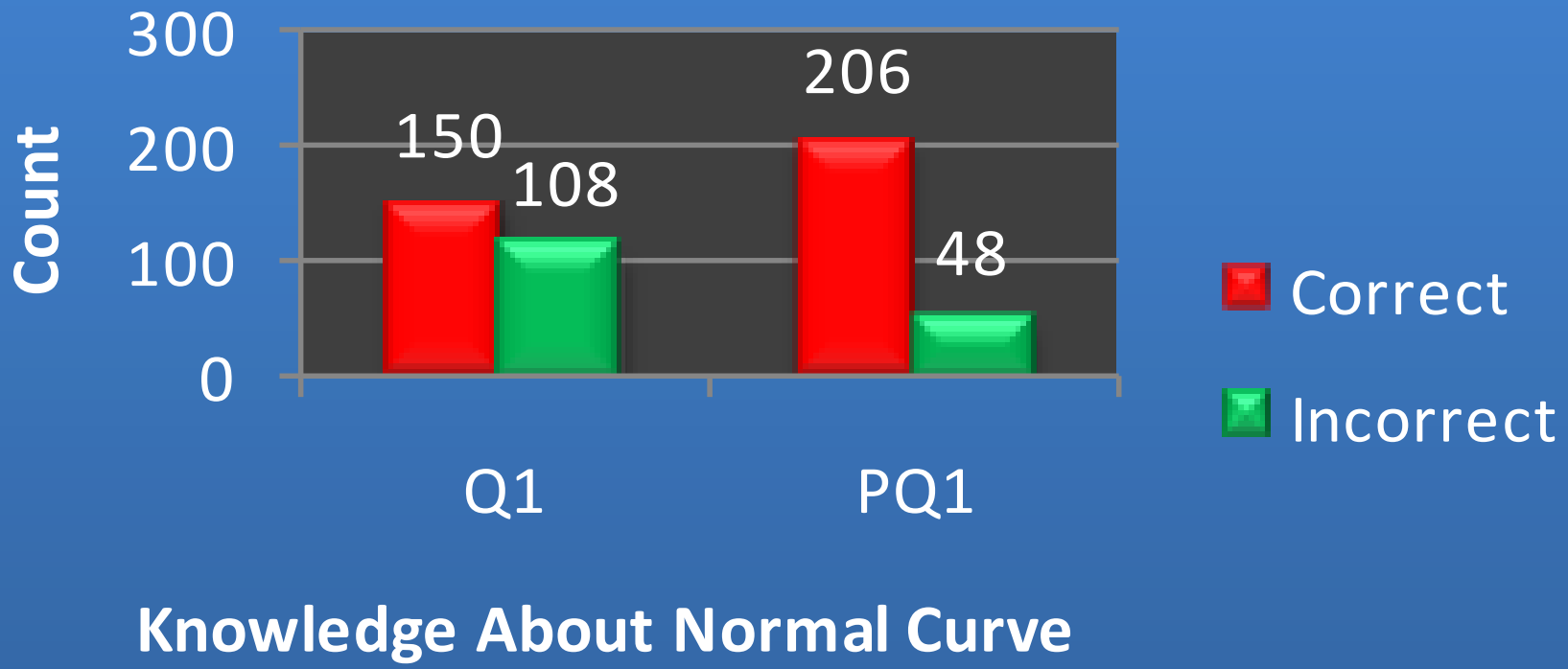
Ability to Calculate Odd Ratio (OR)



Ability to Use Standard Error (SE)

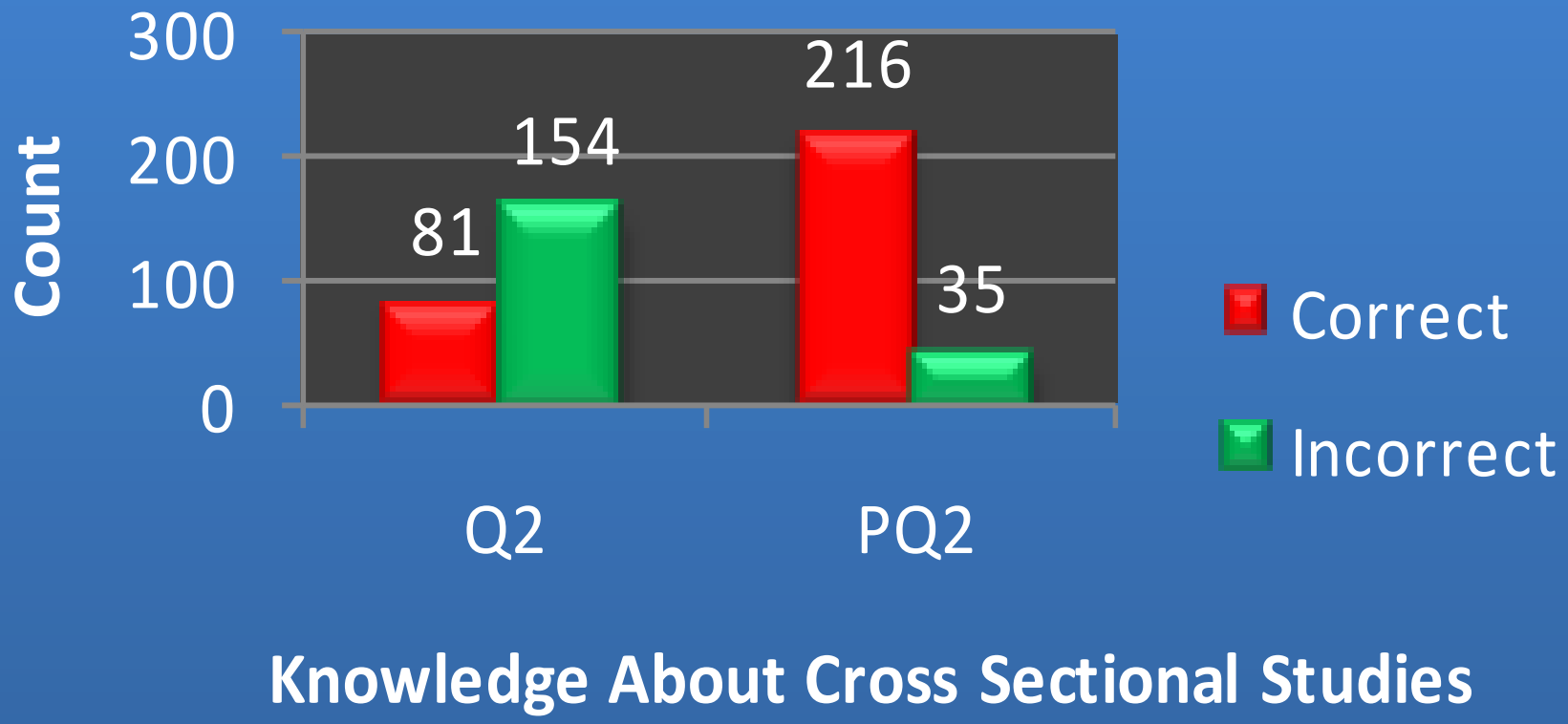


Distribution of Q 1 By Post Test



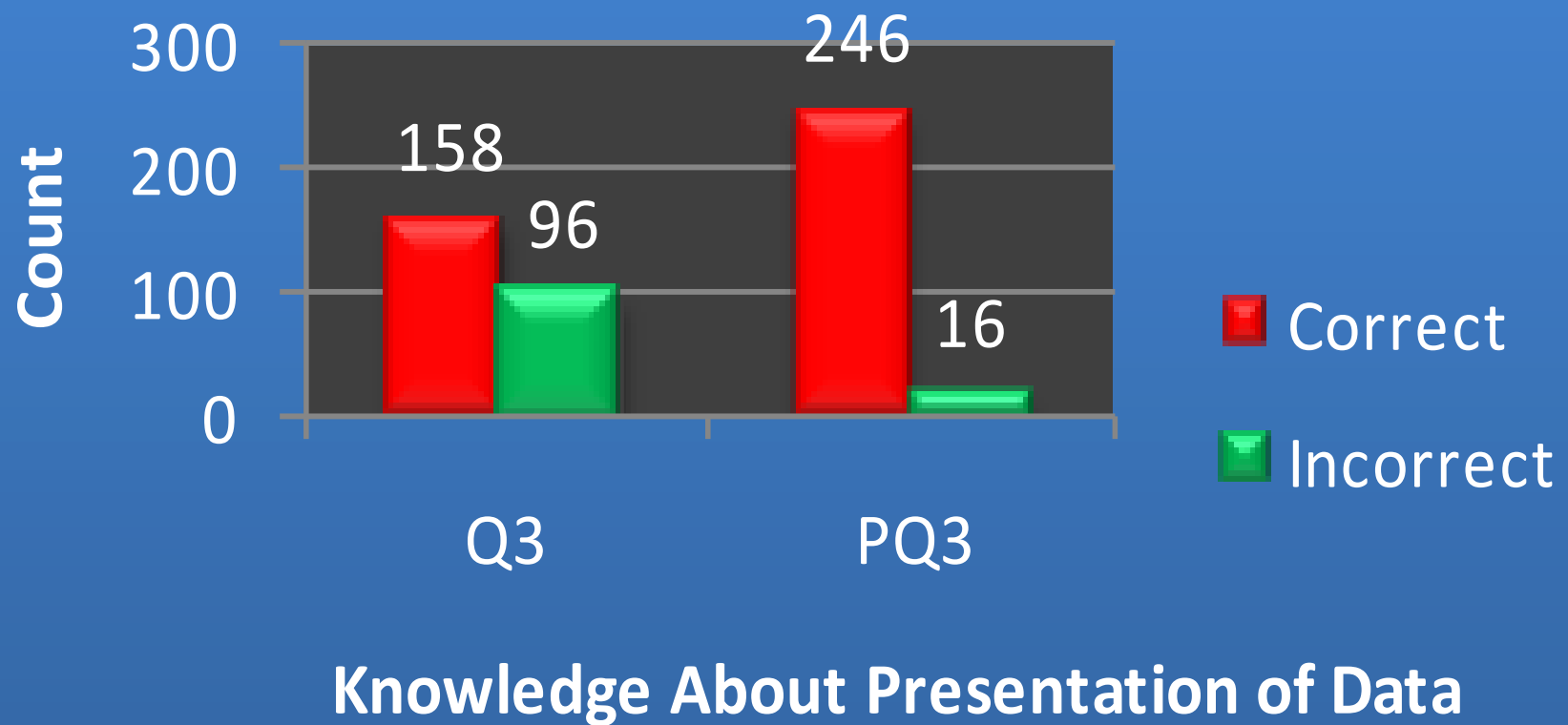
Pearsons Chi-Square	7.433	P value 0.006

Distribution of Q 2 By Post Test



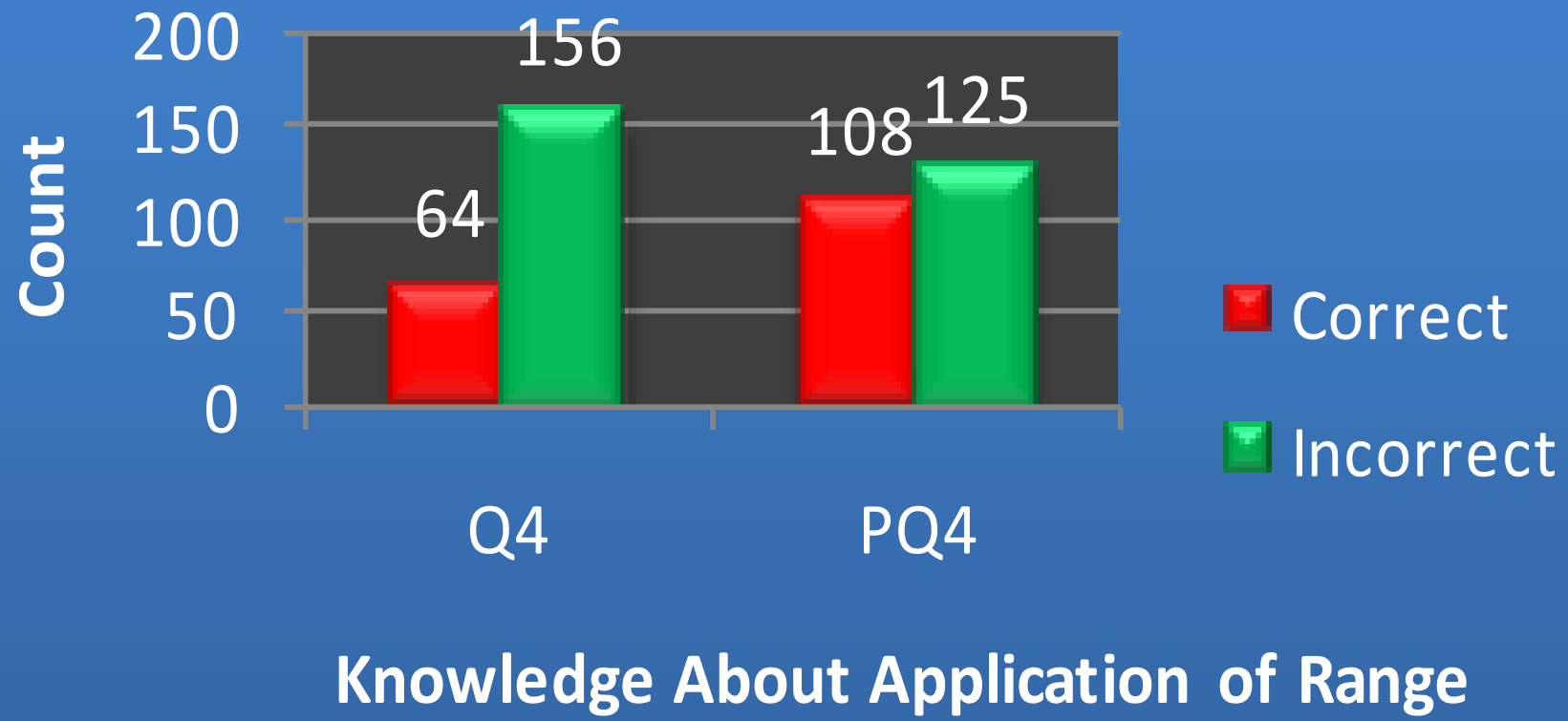
Pearsons Chi-Square	16.46	P value 0.000

Distribution of Q 3 By Post Test



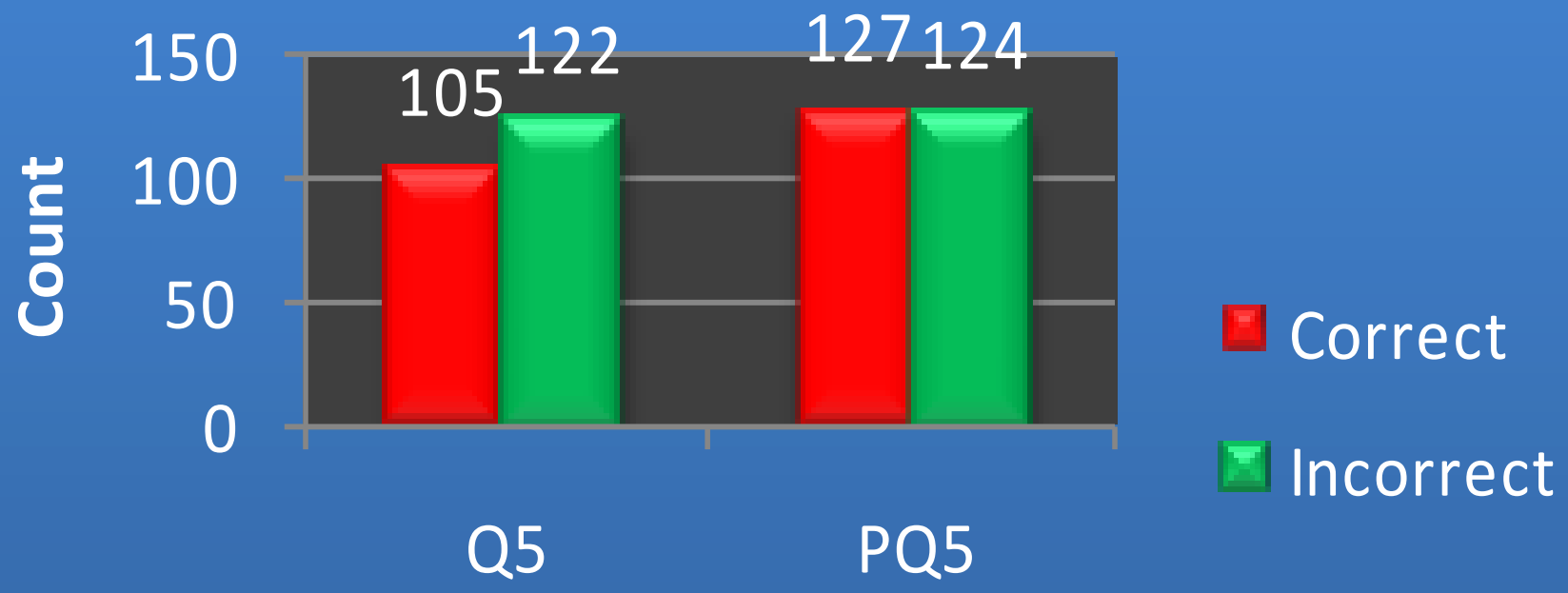
Pearsons Chi-Square	30.726	P value 0.000

Distribution of Q 4 By Post Test

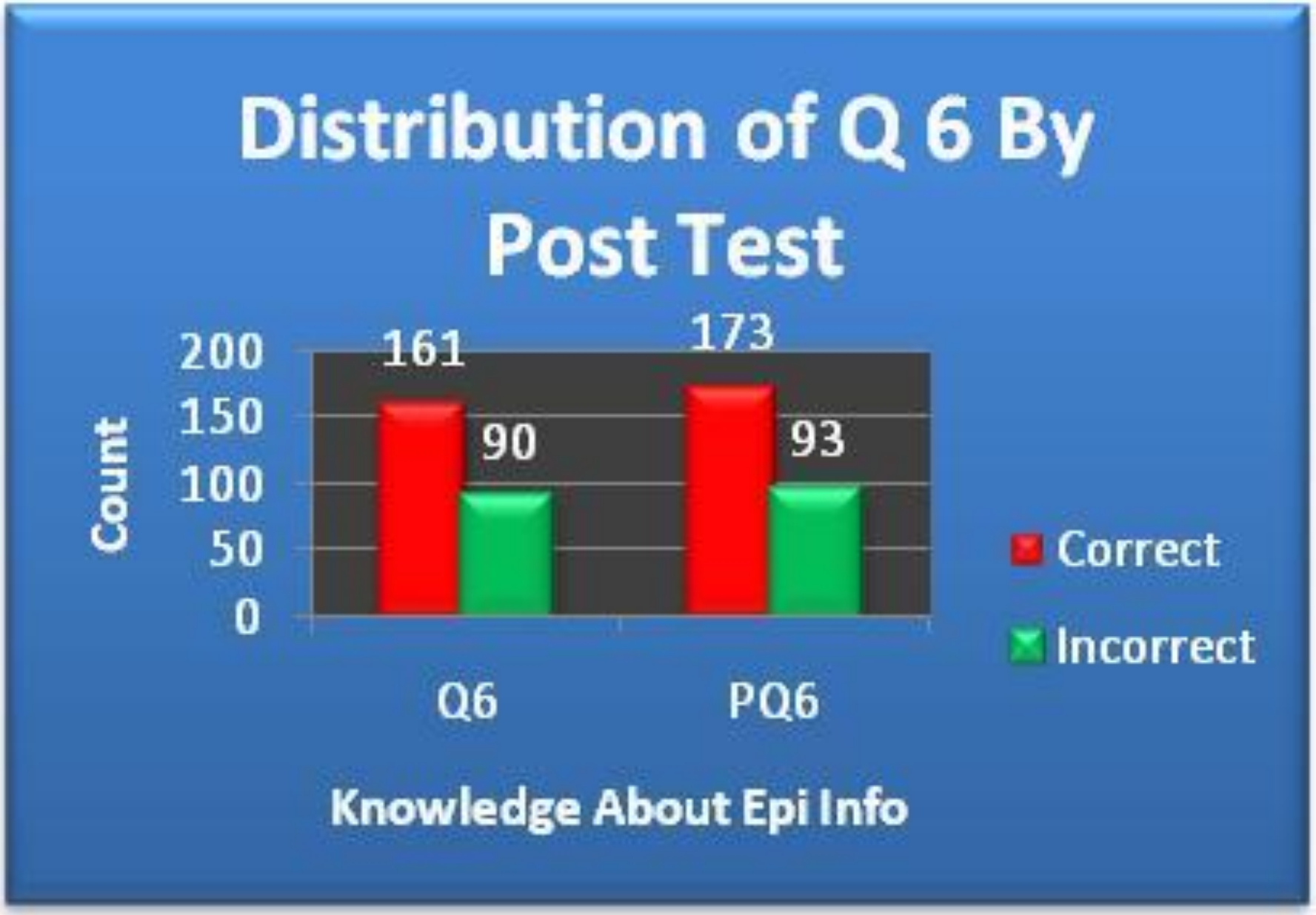


Pearsons Chi-Square	38.672	P value 0.000

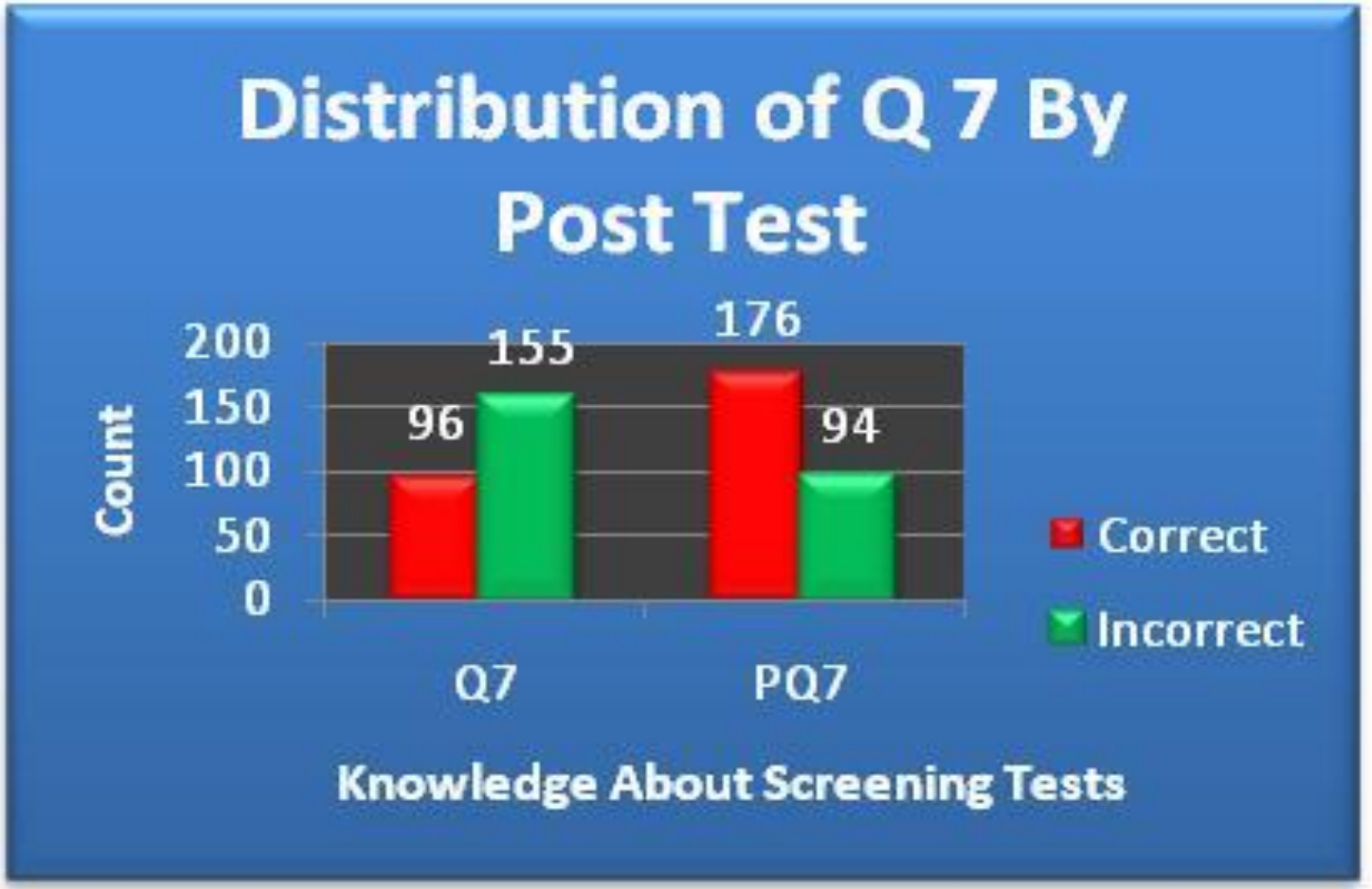
Distribution of Q 5 By Post Test



Pearsons Chi-Square	1.070	P value 0.301

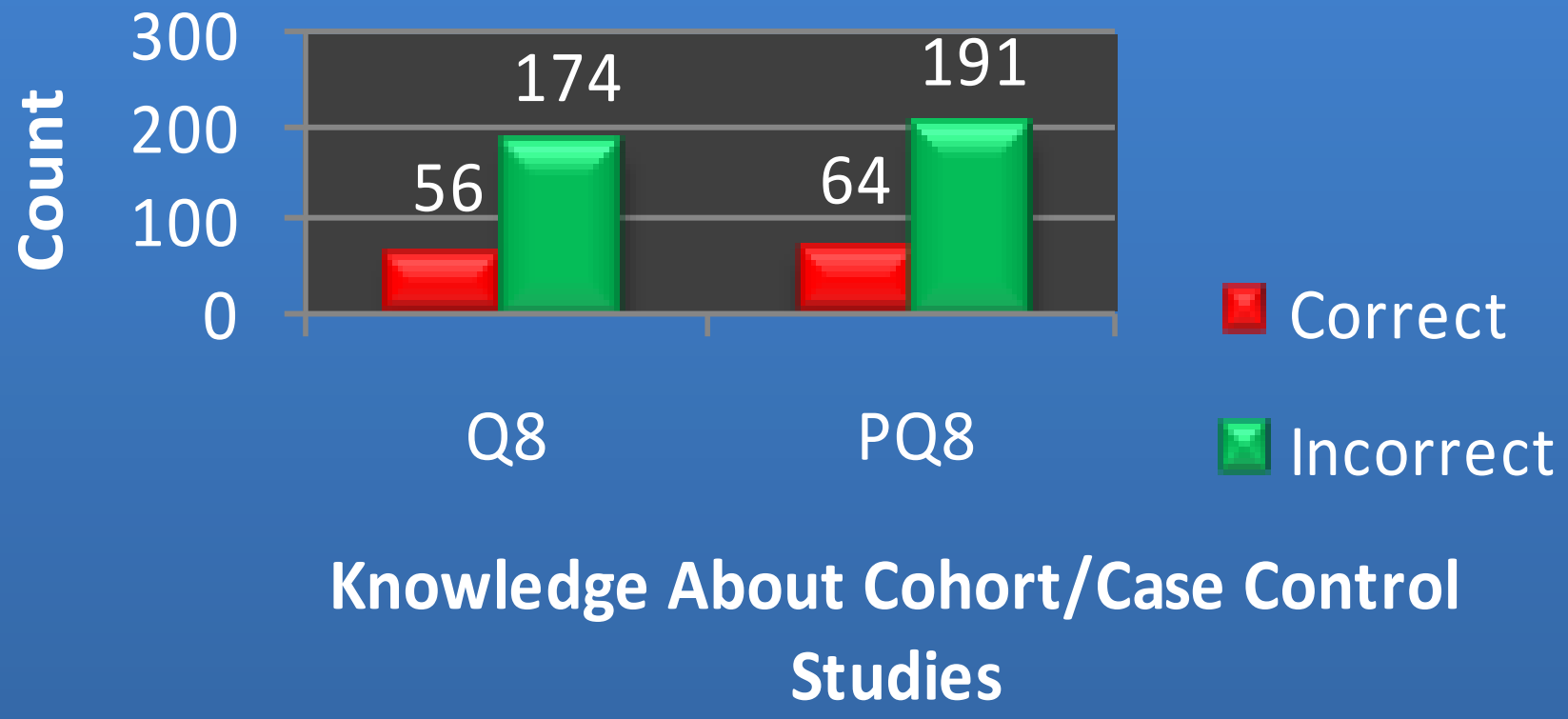


Pearsons Chi-Square	1.616	P value 0.204



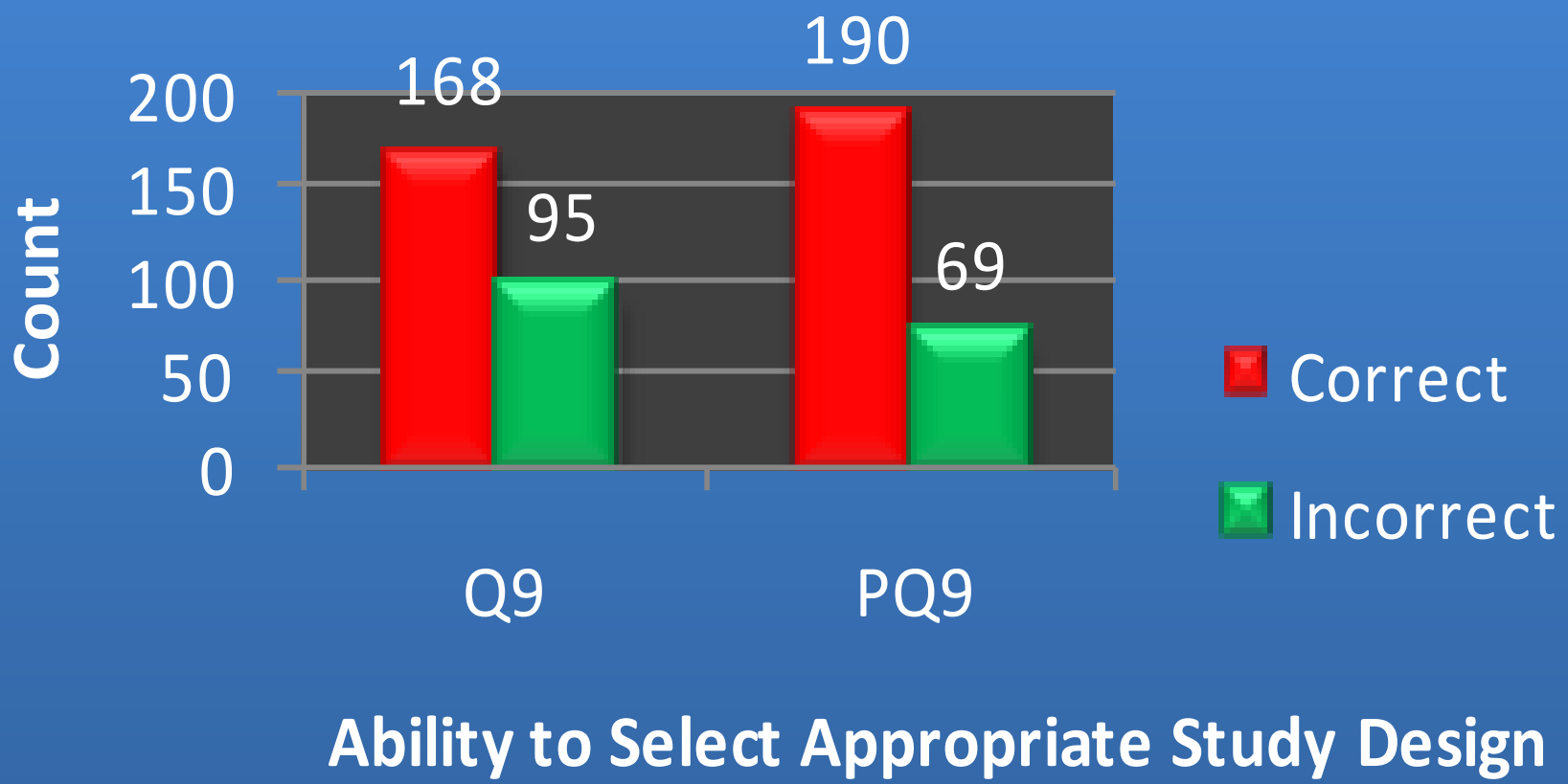
Pearsons Chi-Square	6.722	P value 0.010

Distribution of Q 8 By Post Test



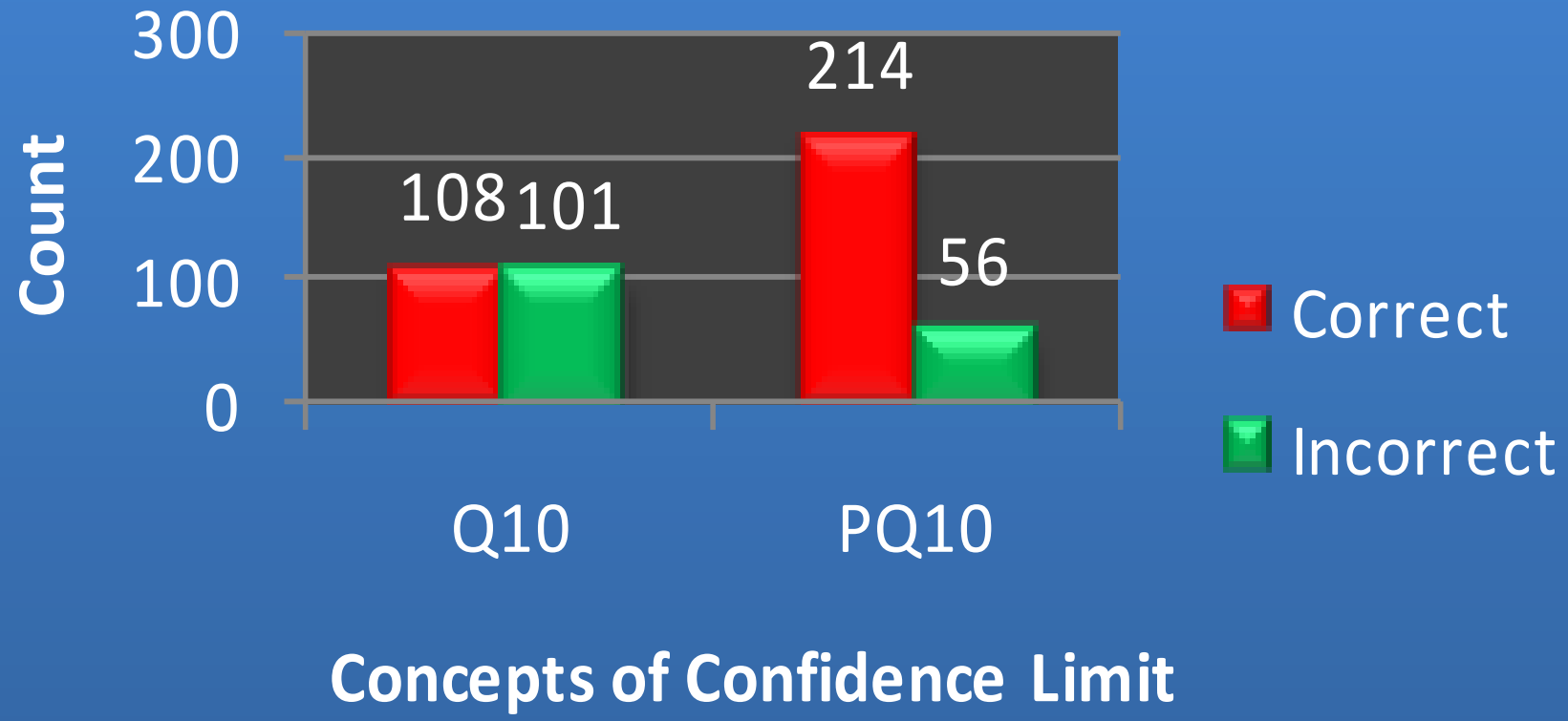
Pearsons Chi-Square	1.419	P value 0.23

Distribution of Q 9 By Post Test



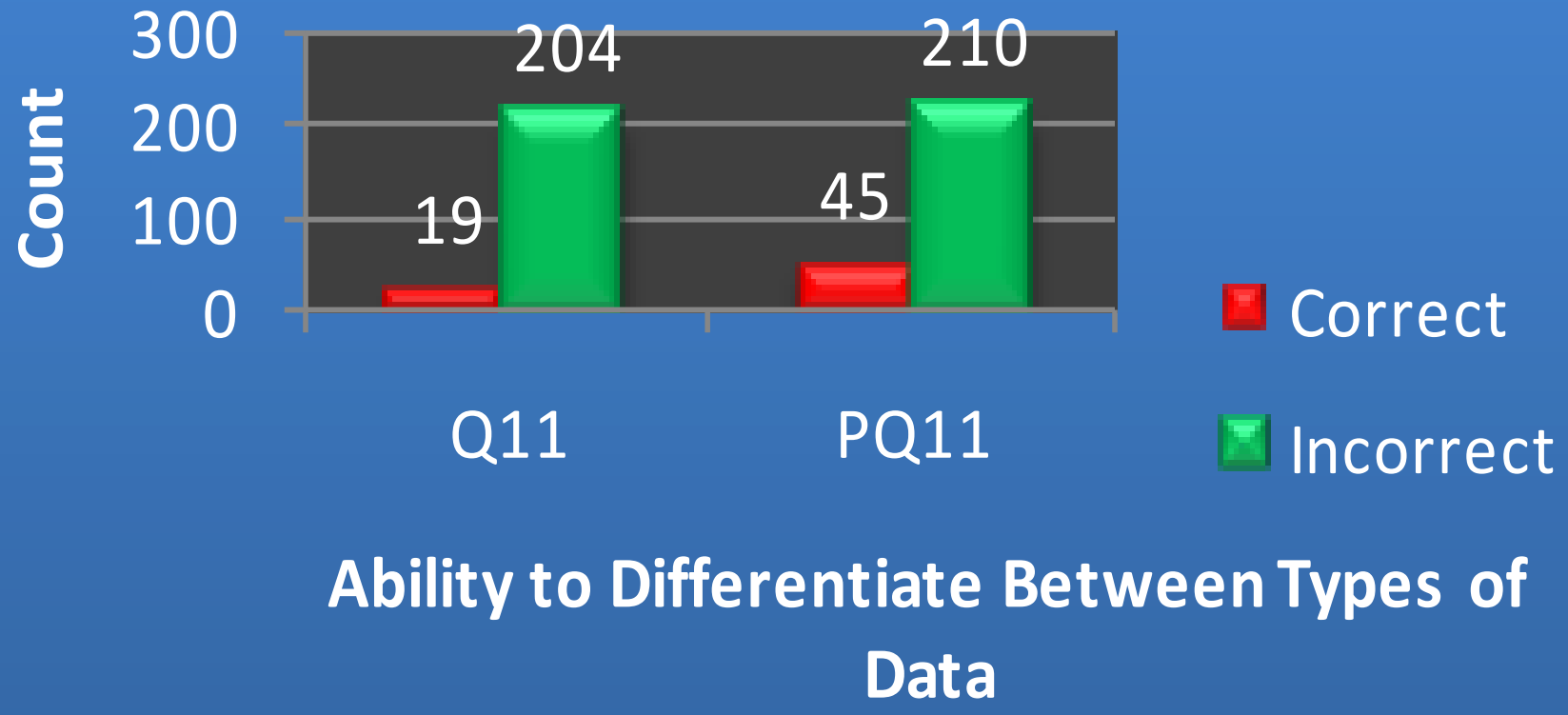
Pearsons Chi-Square	32.548	P value 0.000

Distribution of Q 10 By Post Test



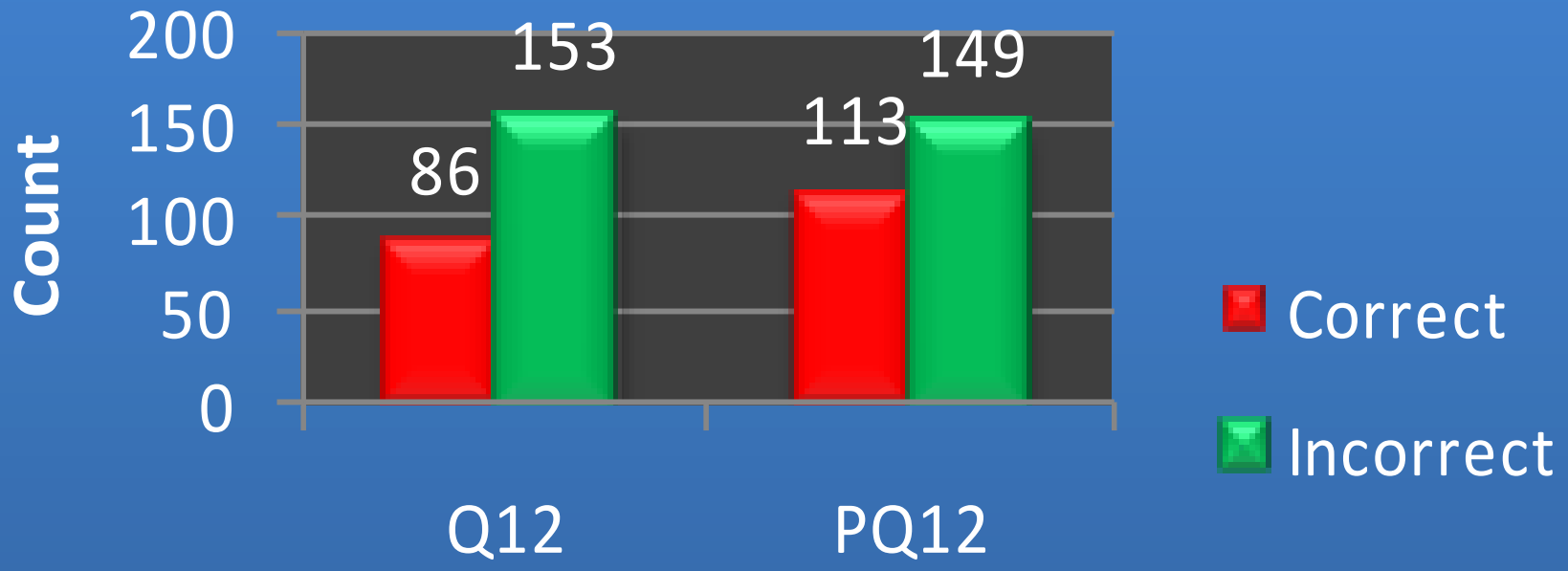
Pearsons Chi-Square	12.608	P value 0.000

Distribution of Q 11 By Post Test



Pearsons Chi-Square	3.757	P value 0.053

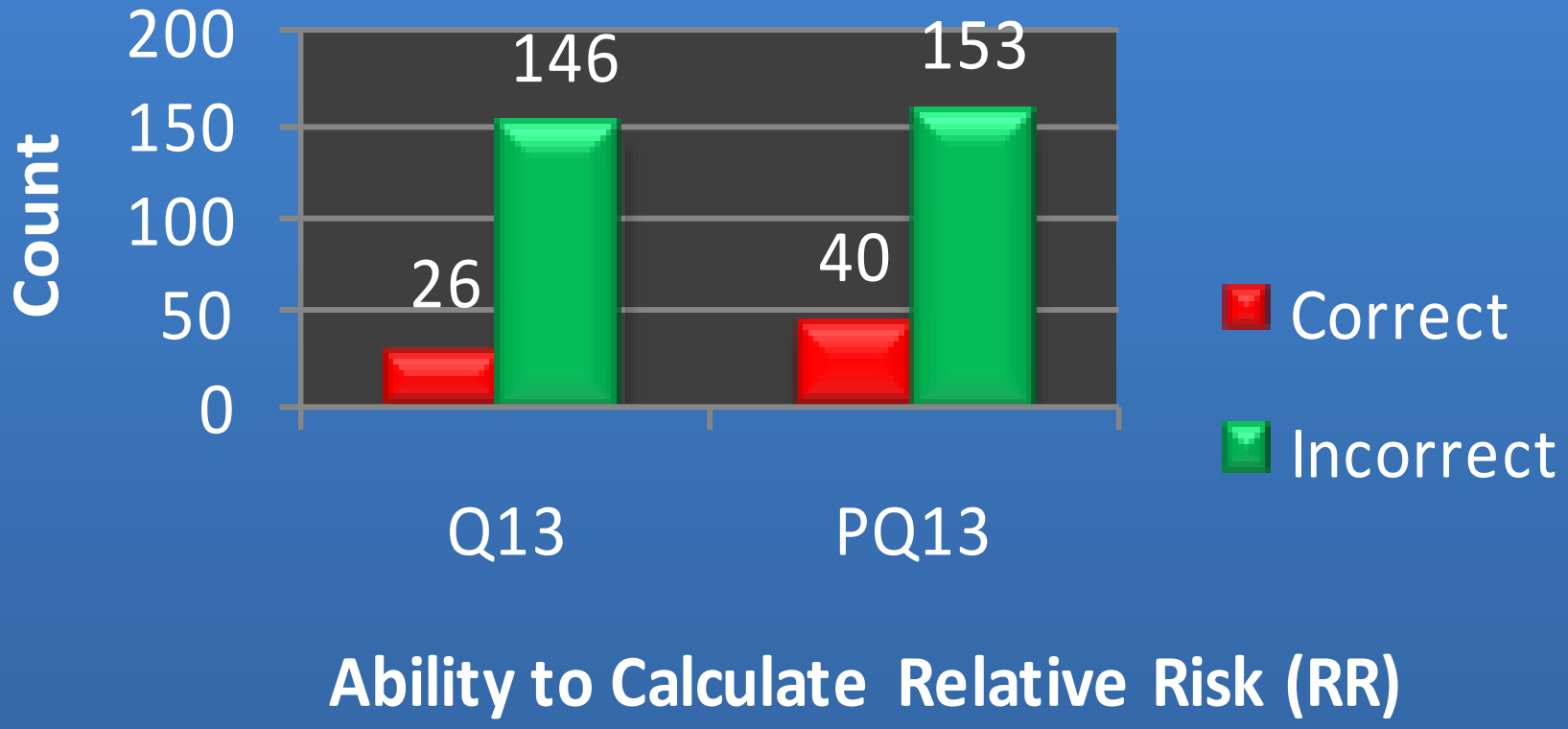
Distribution of Q 12 By Post Test



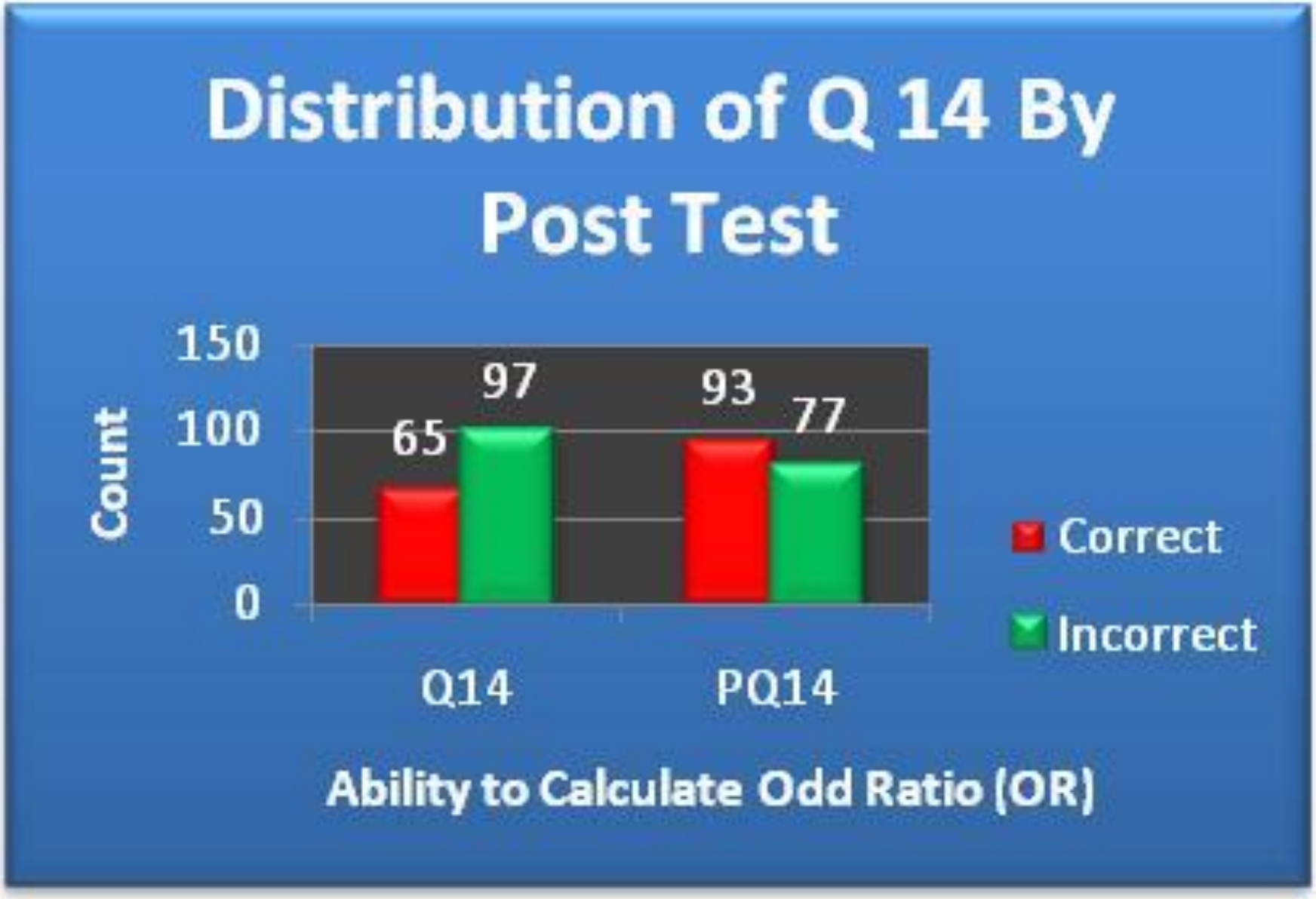
Ability to Apply Appropriate Measures of CT

Pearsons Chi-Square	0.472	P value 0.492

Distribution of Q 13 By Post Test

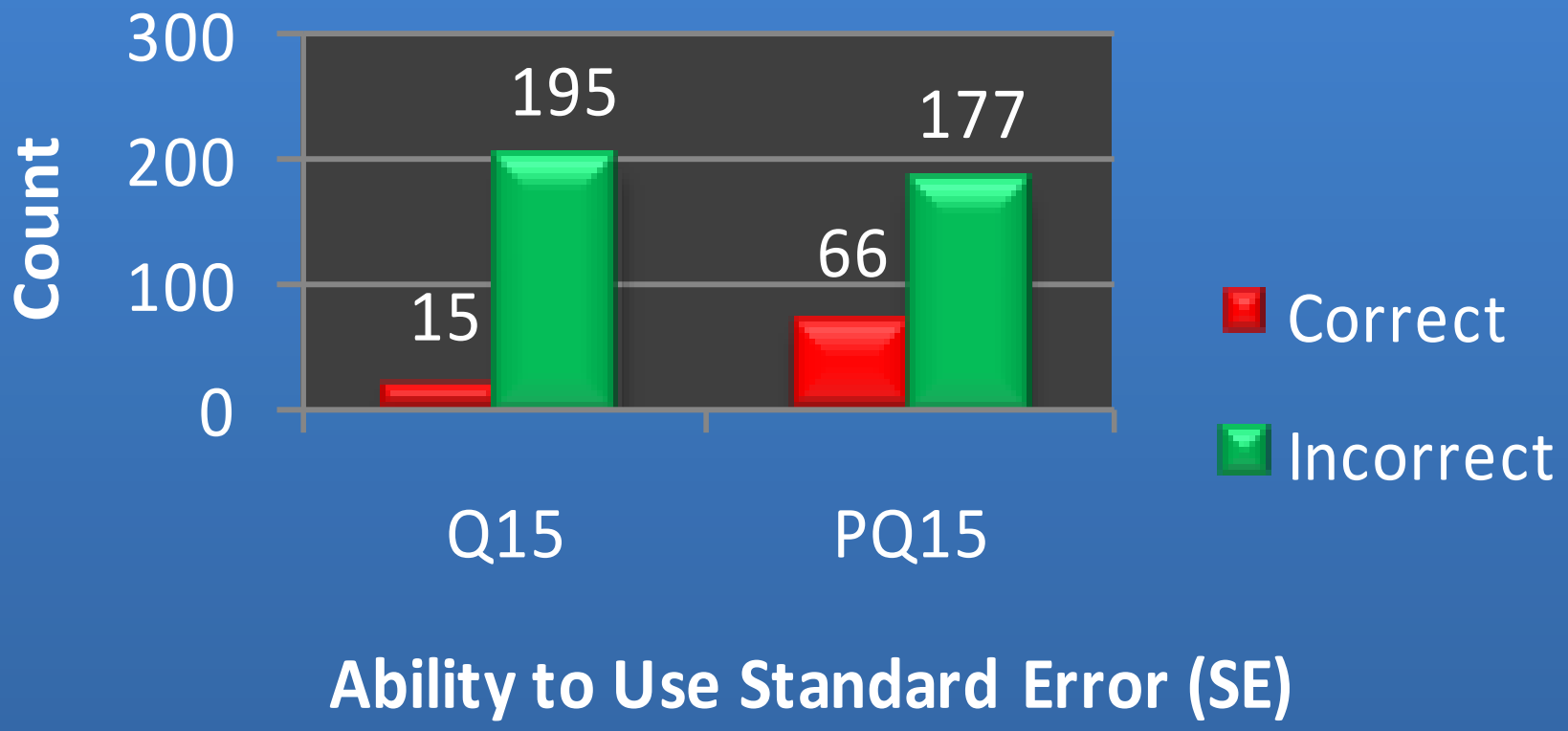


Pearsons Chi-Square	1.457	P value 0.227



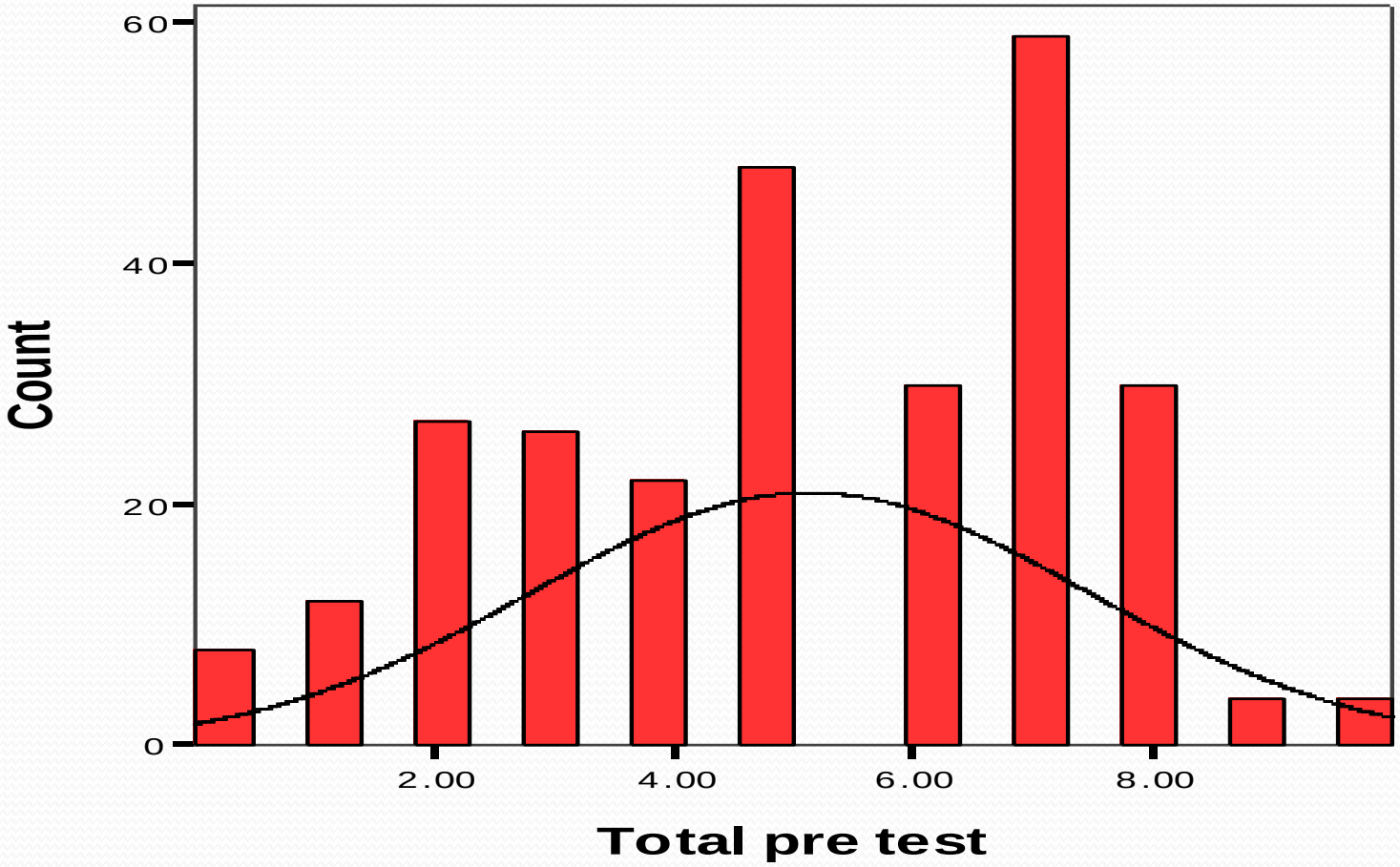
Pearsons Chi-Square	7.30	P value 0.004

Distribution of Q 15 By Post Test

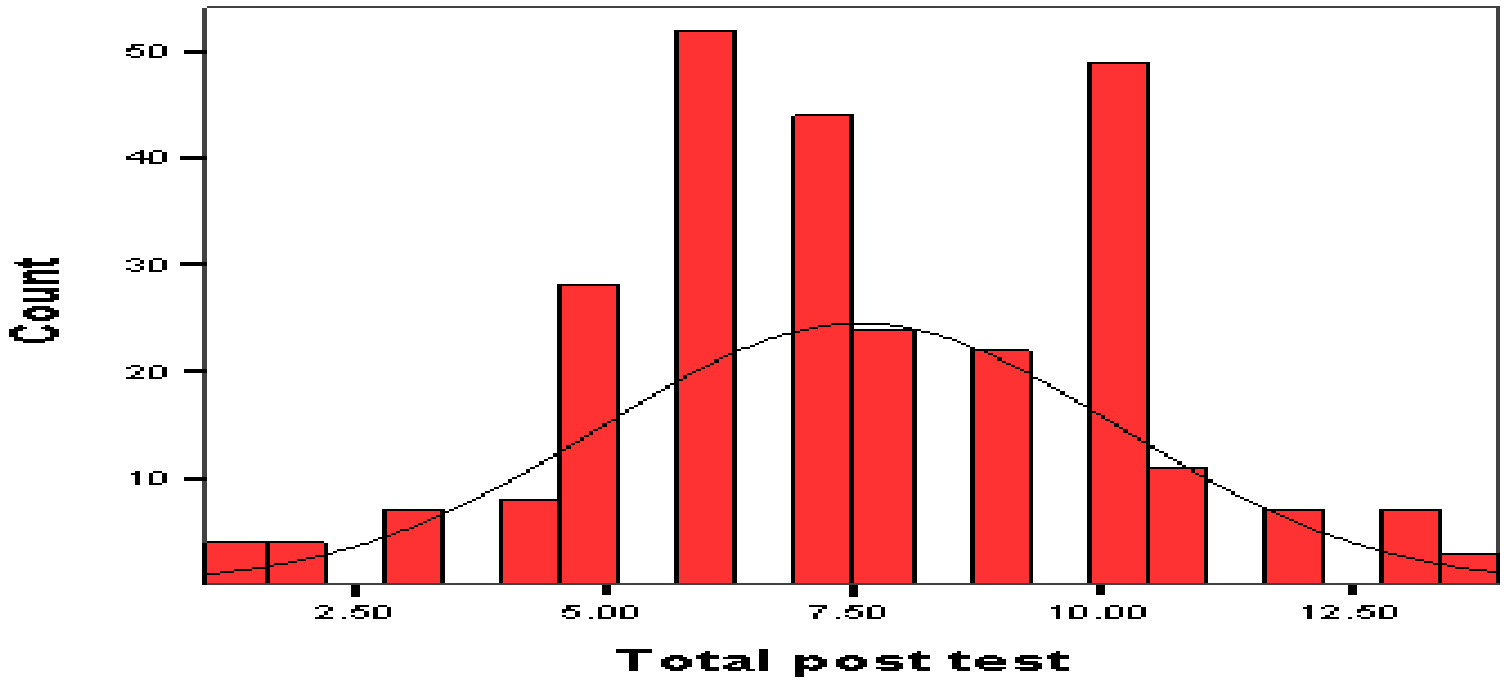


Pearsons Chi-Square	10.726	P value 0.001

Distribution of pre test scores



Distribution of Post test scores



- **Paired Samples Statistics**

	Mean	N	Std. Deviation	Std. Error M
post test	7.5667	270	2.59274	.15779
pre test	5.1148	270	2.32766	.14166

- **Paired Samples Test**

Paired Differences	t	df	Sig. (2-tailed)
2.79535	14.053	269	.000

- **Paired Samples Correlations**

	N	Correlation	Sig.
Total post test & Total pre test	270	.325	.000

CONCLUSION

- Research Methodology workshops have significant affect in improving the knowledge regarding research issues. However some variables like Type of data, estimation of relative risk and odd ratio, application of standard error need more elaboration for better comprehension of research.

RECOMMENDATIONS

- More research methodology workshops should be organized through out the country as well as globally.
- The number of days should be increased from 2 days to 5 days with additional exercises.
- Test of significance should also be added as an important component
- SPSS workshop should be arranged immediately after the research workshop.

Thank You

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